



Councilman

George F. Richardson.

Newton Free Library



3 1323 01365 8249



Digitized by the Internet Archive
in 2017 with funding from
Boston Public Library

TABLE OF CONTENTS.

MAYOR'S ADDRESS.

REPORTS OF

CITY AUDITOR,

CONTAINING OFFICERS OF CITY GOVERNMENT, ELECTED AND APPOINTED,
CITY TREASURER'S ACCOUNTS, ITEMS OF RECEIPTS AND
EXPENDITURES, OF ASSETS AND LIABILITIES,
AND COMPILATION FROM RECORDS
OF THE CITY CLERK.

BOARD OF HEALTH,

CITY ENGINEER,

CONTAINING ITEMS UPON HIGHWAY CONSTRUCTION, WATER DEPART-
MENTS, ETC.

CITY MARSHAL,

CHIEF OF THE FIRE DEPARTMENT,

NEWTON FREE LIBRARY,

OVERSEERS OF THE POOR,

SCHOOL COMMITTEE,

WATER BOARD.

ADDRESS
OF
HEMAN M. BURR,
MAYOR OF NEWTON,

JANUARY 7, 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS,
1889.

THE MAYOR'S ADDRESS.

Gentlemen of the City Council:

Following a custom inaugurated with the establishment of the City Government fifteen years ago, we meet on this first day of the municipal year to take council together upon the proper discharge of the duties which have been entrusted to us by our fellow-citizens, to the end that we may give a faithful account of our stewardship when we lay it down at the end of the term for which we have been elected.

It is my pleasant duty to express to the people of Newton, for you and for myself, our deep sense of the honor which they have conferred upon us in placing in our hands responsibilities so grave.

The return which they seek from us for their confidence is a faithful and single-minded devotion to their interests. It is

your part to take the initiative in originating measures essential to the welfare of the people and expressive of their will, while upon me devolves the duty of suggestion, supervision and execution.

Gentlemen who have served in the City Government will agree with me that an important qualification for the proper discharge of our duties is a thorough understanding of the laws and system under which we act. I therefore urge such of you as are without previous experience to study and to master the City Charter and ordinances, the joint rules of the City Council, as well as those of the branch in which you sit, and such of the statutes of the Commonwealth as have to do with municipal corporations and define the powers and duties of the various boards and officials entrusted with their management. It is my opinion that the ordinances of the City need revision, codification and indexing. As they now exist in the Municipal Register of 1883 they are incomplete and in places extremely obscure. Moreover, the enactment of city laws has not kept pace of late with the growth and needs of the people and with the introduction of new systems. The circumstance that the last edition of the Register is nearly exhausted makes the present a peculiarly opportune time for doing the necessary work. Believing that this labor can be better done by few hands than by many, I recommend entrusting it to a commission of three, one of whom shall be an alderman and one a councilman.

It is hardly necessary to call your attention to the condition of the Joint Rules and Orders. You are aware that some of their provisions are openly disregarded, while others are violated in spirit at every meeting of either branch of the City Council. I recommend that they be thoroughly revised, and I urge upon the committee on rules and orders the importance of going about the work at once. It is hardly for the credit of the City that her chosen servants should do their work under a system of their own creation, or at least adoption, to which they pay so scant respect.

The appropriations for the year now beginning have already been made up and cannot be exceeded by you except by a two-thirds vote in the affirmative in each branch of the City Council. This provision of our Charter I believe to be one of the wisest it contains. While leaving the making of the annual budget in the hands of men who have had nearly a year's experience of the needs, demands, and resources of the people, it does not restrain those who are to spend the money from levying it, provided two thirds of them are willing to be held responsible for it by their constituents. The total appropriation for 1889 amounts to \$587,624 an excess of \$17,885 over that of 1888. The difference is perhaps not disproportionate to the year's advance in population and wealth. Bearing in mind, however, that the business of the country is not in a satisfactory condition and that in consequence the year's increase in the City's valuation is likely to be less than usual, I urge upon you the paramount importance of keeping well within the appropriation for each department. Heads of departments and chairmen of committees should look forward to the end of the year's work at its beginning. It should be their care, in homely phrase, to cut their coat according to their cloth; no more work should be planned than can be satisfactorily accomplished with the means at their disposal, and in those departments where sudden exigencies calling for unusual expenditures are likely to arise, funds should be reserved to meet them. I believe in a policy of liberal expenditure in Newton. We have not made our City one of the most attractive and beautiful in the State and Nation by parsimonious and niggardly government. But there should be a caution and sagacity in our liberality. We should spend our money as we get it and not before we get it. The introduction of improved methods of lighting, the widening and building of highways, additions to the service and efficiency of the fire and police departments — all these should steadily keep step with the power and the wish of the people to pay for

them. We shall not go far wrong if we keep constantly before our eyes and learn justly to apply the principle that liberal government will attract to us new population and wealth, and that extravagance will as surely repel them.

In examining the addresses of my predecessors I have found in them many references to the faults and virtues of the City Charter and suggestions for its improvement. Believing as I do that our Charter is on the whole an instrument suited to the needs and conditions of the City, I shall not recommend that any action be taken with a view to substituting a new one in its stead. It is now but six years old and unless it was unusually faulty at its birth it can hardly have developed in its short life so many vices as to deserve death now. The American people possess the great virtue of intelligent conservatism. They are slow to adopt and slow to change. They do not throw away a good gun because it has once missed fire. A distinguished English writer has said, in an essay in which he criticized unsparingly the constitutional system prevailing in the States of the American Union, that it was no answer to say that Massachusetts, for instance, was well governed under it, "for the men of Massachusetts could make any constitution work." So I believe that the men of Newton can make any system of government work, even the very worst, just as I believe that the fellaheen of Egypt could make no system work, even the very best, and that the chief virtue is in the men who operate the machine and not in the machine itself. If, however, the instrument we have to use be dull and blunt in our hands it becomes us to throw it aside and get a better one. It may not be out of place, therefore, to examine some positions which have been taken by the friends of a different system.

Chief among them are two: first, that executive and legislative functions should be absolutely divorced, and second, that the City Council should consist of one board instead of two. It must be confessed that it is difficult to solve with perfect success

the problem of municipal representation for Newton. Probably no perfect system could be devised. It seems, however, safe to start from the principle that every real constituency should have a representation here, whether there be one or more of them. The United States Senate, for example, is the strongest and most respected second chamber in the world, and it is such mainly because it has at its back the States of the Union as sovereign political entities, constituting real and powerful constituencies. I believe that there are two constituencies in Newton: that the people of the whole City make one and the inhabitants of the villages the other. Ward lines correspond closely to village divisions, and wherever we find a village we find a community with social, business and municipal interests that cannot always run on all fours with those of a neighboring village. Such political village interests as these find their fitting representation in the Common Council. We have for a second real constituency the whole City with its larger territory and life. If any change comes, or perhaps when a change comes, I believe that the membership of the Board of Aldermen should be increased, and that the residential qualification which limits their selection to the wards should be removed, thus preserving and bringing into clearer light the principal that the Common Council represents the ward, and the Board of Aldermen the City. The whole controversy, however, seems to me of little real value, and the question to be only incidental to larger ones; in other words, a good Charter would be good and a bad one bad whether operated by two boards or one.

Let us return for a moment to the first argument—that which insists that executive and legislative duties should be separated. The policy of this is evident to any formal capacity, but I think that those who press it most have sometimes overlooked the fact that the blending of functions so different has proceeded less from defects in the Charter than from some blemishes in the ordinances and the rules and orders of

the City Council, and from one notable provision of the Public Statutes, and that such evils as have arisen are not mainly "organic" and "inherent in the system," but either accidental or the natural out-growth of an ill-considered State law. Here again there is a principle which we can all stand upon, and I believe it perfectly safe to assert that the entire separation of executive from legislative duties is neither practicable or desirable. Not to multiply examples, the Mayor in exercising the veto power vested in him by the laws of the Commonwealth, acts distinctly as a legislator, not as an executive. In such case he is simply a member of the legislature wielding more votes than his colleagues. Much, however, can and should be done, without going to the Charter at all, by means of changes in ordinances and rules. A Board of Public Works can be created by ordinance, the Mayor's seat in the Board of Health can be taken from him by a change in the ordinance which bestows it upon him, his power of appointing committees, which now belongs to him only provisionally, can be taken from him by a change in the rules, committees which have assumed executive power nowhere granted them in the Charter, can surrender it. A careful study of our Charter and ordinances, and of the State laws that control and give direction to the workings of both, has convinced me that hardly a defect in our system of government is traceable to the former. If committees exercise, or are expected or compelled to exercise executive powers, they derive the right and are burdened with the duty thereto from sources wholly outside the Charter, so far as its character as an instrument independent of State laws extends. It remains to consider what they are. The Public Statutes, Chap. 31, Sec. 2 provide that "The Mayor and Aldermen shall have the power and be subject to the liabilities of selectmen." Here I think is the plague spot—the germ of the partial paralysis that has fallen upon most of the municipalities of Massachusetts. When the old town government became unwieldy in the larger towns from the

size of the electorate, and it became necessary for citizens to legislate through representatives in a City Council, because it was no longer practicable to legislate by themselves in town meeting, there was an apparent desire to conserve the Board of Selectmen in a new body called the Board of Aldermen, and this desire found expression in the provision which I have quoted from the Public Statutes. Legislatures and framers of charters forgot for the moment that they were establishing a new office, that of mayor, whom in a loose and general way they invested with executive functions, and they forget that the City Council was delegated to legislate for the people because the people could no longer legislate for themselves. Understanding the source from which the evil has flowed, it is simple to trace the next step taken. The Board of Aldermen possessed and wielded executive powers and in course of time Common Councilmen, sharing equal privileges with the Aldermen as members of the legislature proper, serving and working with them on joint committees, have come naturally and inevitably to assume the exercise of rights which are not theirs, and which should never have been granted to the co-ordinate branch. To reform the evils of the system it is necessary to go back to the cause of their beginning. The original mistake was made in not merging the powers and liabilities of selectmen, almost purely executive officers, in those of the Mayor alone. This can be now corrected only by a repeal of the obnoxious statute, or such a partial repeal as will except Newton from its operation, and a change in the few words of our Charter that follow the statute. As a necessary corollary of this change there should follow a revision of such of the rules as give to the Mayor the selection of committees from the Board of Aldermen. Under our present system chairmen of committees may be executive officers of large powers and are very properly chosen by the Mayor, the chief executive, who is responsible to the people for the work done by them. Should the change which I suggest be

made, their selection should be left with the branch of the council to which they belong. Furthermore, as the Mayor now sits with the Board of Aldermen because he and they have been made an executive board by the laws of the Commonwealth, there would be no fitness in continuing the practice under a system recognizing him as an executive and them as the upper branch of the city legislature. I trust that the task of bringing about this important reform may go hand in hand with the revision of the ordinances which I have recommended and that, if my suggestions meet with your approval, one commission may be entrusted with the whole labor.

LIQUOR LAW.

The people of Newton by their vote at the polls have with no uncertain voice given in their usual verdict against the granting of licenses for the sale of intoxicating liquors. With a public sentiment so strong and so wholesome to sustain them there cannot be the shadow of an excuse for officials who neglect to do their whole duty in enforcing the law. It is both my duty and my purpose to see that the will of the people is carried out and I bespeak to that end the cordial co-operation of members of the City Council and all good citizens. The peculiar obstacles that lie in the way of detecting and punishing violations of the law can be met and overcome only by official vigilance representing an alert and sensitive public opinion.

PLAY GROUNDS.

The agitation for a system of parks, which led in 1882 to the passage of a State law authorizing the City Government to take land under certain conditions for public parks and squares has unfortunately, I think, subsided. There is one great need of our people which has received far less consideration than it merits — the need of public play grounds. Having been familiar with our villages from my early childhood and remembering well the time when almost every vacant lot and pasture was a

playground, I have seen the boys of Newton driven from one field to another by the steadily advancing tide of increasing population, until there is little left to them but the public streets and remote pastures and wood lots. It needs no persuasion of mine to convince you that this pressing need should no longer be overlooked, as the difficulty of supplying it becomes greater every year. The initiative has already been taken in one of the villages by a public-spirited local society and in a few months Newton Centre will contain a play-ground easily accessible to all the communities on the south side of the city. The same generous response with which the City Council met the application of the Newton Centre Village Improvement Society for assistance would, I confidently believe, be accorded to citizens from other parts of Newton coming to you on a like errand. Pending independent action from sources outside the City Government I recommend the whole subject to your consideration, merely observing that if one or two large play-grounds are provided for the whole north side of the city a settlement of the question will have been effected for a long time to come, perhaps forever. It is somewhat remarkable that the word "play-ground" is nowhere to be found in the act of 1882. If therefore you decide upon moving in this matter slight additional legislation may be necessary.

GRADE CROSSINGS.

Recent unfortunate events had led to a strong movement in favor of abolishing grade crossings. It is yet too early to forecast the probable shape which a final settlement of this question will take. Engineering problems of great difficulty must first be solved and a right apportionment of the expense made. The City, the Commonwealth, or its unit for some purposes of administration, the county, and the railroad are all deeply interested in effecting a just settlement. Inasmuch as I apprehend that a satisfactory adjustment of all the conflicting interests that are involved in the question may delay

its final settlement, I think that some action should be taken by you to procure at least a temporary relief. I have always believed that the existing dangers could be lessened by a different and more thorough system of gating and policing the crossings, and by constructing subways for the use of foot passengers where the traffic is greatest.

SEWERAGE.

Complaint is not infrequently heard of the inactivity of the City Council in pressing forward the establishment of a general sewerage system. In this matter as in others I think that the Council is fairly representative of public opinion, and I doubt if the people are quite ready to speak their last word on the subject. The day is fast approaching, however, when the need will become too urgent to be over-looked, and it behooves you to meet it more than half-way. You should keep more than abreast of the public desire and be ready with a plan to satisfy it when its expression becomes unmistakable. The great uncertainty that exists of the final adoption, by the State, of the Metropolitan system for the Charles River valley makes it the more necessary for the committee on sewerage to be prepared in time with a plan which shall satisfy our local wants without regard to the co-operation of neighboring towns.

HIGH SERVICE.

There are in Newton one hundred and eighty persons living on ninety-one acres of land who are wholly without water supply, one hundred and thirty persons living on sixty acres whose supply is insufficient, or not to be depended upon, or both; and two thousand six hundred and ninety persons living on two thousand four hundred and ninety one acres who are deprived by the inadequacy of the water supply of their full share of the advantages enjoyed by other citizens for protection against fire: making a total of three thousand persons living on two thousand six hundred and fifty acres

of land to whom their fellow-citizens are a privileged class so far as benefits derived from our system of water works are concerned. These people are, nevertheless, taxed for their part of the interest on the water debt and for their share of the cost of water maintenance, and are charged full water rates even though the supply extends only to the cellars of their dwellings. This is a condition of things which should be ameliorated and I trust that you will cordially co-operate with the water board in every vigorous effort to that end.

It has been usual for the Mayor in his address to review somewhat perfunctorily the work of the various departments and to impress their needs upon members of the City Council. As full reports are yearly published by the heads of departments I shall omit giving an account in detail of their condition.

THE CITY TREASURY.

On account of the transactions of the financial year ending December 31, 1888,	
there are outstanding Temporary Loans,	\$109,700 00
Bills unpaid, ...	25,049 43
Unexpended Balance of the Read Fund Income, ...	895 13
Total, ...	\$135,644 56

Against this there are:

Cash on hand, ...	\$64,817 46
Uncollected taxes, good, ...	95,000 00
Due the Treasury for advances made for the extension of water mains, ...	396 30
Due the Treasury for advances made for the construction of the Bemis and Lower Falls bridges, ...	5,426 19
Total, ...	\$165,639 95

Leaving a balance in the Treasury of, . . .	\$29,995 39
There is further due from miscellaneous sources, ...	\$17,000 00

Out of this balance will be paid the cost of providing the City Hall with ventilation, amounting to \$2200. I recommend that \$2500 more be taken from it for the play-ground and park at Newton Centre. This amount, appropriated by the City Council of 1887 and included in the tax levy of last year, has now been swept into the treasury and figures there as cash on hand. It should not in my opinion be diverted from its original purpose.

I further recommend that you pay for the new bridges out of this balance. The cost of building them, \$16,000 for both, is now provided for by issuing notes of \$1,000, the last of which will not mature for ten years. I do not think that our City will gain much reputation from such financiering. The City Council of 1887, expecting that the new bridges would be paid for out of the tax levy of 1888, excluded from the appropriation for that year the usual item for widening and reconstructing streets and appropriated \$6,000 for repairing the bridges, in order that they might at least be made safe for winter travel in case they were found to be in a really dangerous condition. The order appropriating this \$6,000 was rescinded before the tax levy was made last year. The burden upon the tax-payers was therefore lightened by the whole amount theretofore devoted to permanent improvements in streets and was not increased by the appropriation of a single dollar for bridge construction. I do not think that it needs argument to convince you of the unwisdom of a policy of this kind, which lightens the burden for one year only to increase it the next. If you follow my recommendation you will increase the tax rate for the current year but you will have the satisfaction of undoing the unwise and unsafe financial policy of providing for small expenses by permanent loans.

Our liabilities at the close of the financial year were as follows :

FUNDED CITY DEBT.

Outstanding Bonds and Notes, and accrued	
interest on the same, ...	\$311,218 38
Sinking Fund for payment of the same, ...	28,963 68
Net Funded Debt, ...	\$282,254 70

WATER DEBT.

Outstanding Water Bonds and accrued interest	
on the same, ...	\$1,192,400 00
Sinking Fund for payment of the same, ...	254,317 07
Net Water Debt, ...	\$938,082 93
The Funded City Debt, December 31, 1887,	
was	\$384,507 48
Sinking Fund, ...	53,107 71
Decrease in Net Funded City Debt for the year	
1888, ...	\$49,105 07
Outstanding Water Bonds and accrued interest, December 31, 1887, were, ...	\$1,141,900 00
Water Debt Sinking Fund, ...	222,811 66
Net Water Debt, ...	\$919,088 34
Increase in Net Water Debt for the year	
1888, ...	\$18,994 59
Total decrease in the whole Debt for the year	
1888, ...	\$30,150 48

From this last total I think that every sound principle of financiering demands the deduction of \$16,000, the cost of the bridges, which is strictly a city liability to-day, inasmuch as the work has been begun and payment by annual notes provided for by order of the City Council. The debt, it is true, is

not yet funded and I trust never will be, but inasmuch as its funding has been ordered and will soon be accomplished unless you choose to pay it out of this year's tax levy, it must certainly be included in the list of the City's liabilities. The total decrease is then \$14,150.48.

There will mature this year School and Library notes amounting to \$14,250, which will be paid from the tax levy; also a City note for \$23,000, which will be paid from the tax levy through the agency of the sinking fund.

READ FUND.

Balance on hand, January 1, 1888, ...	\$946 32
Received during the year, ...	1,985 00
Total available for the year.	<u>\$2,931 32</u>
There has been paid out for a Picnic, Lectures, the Library and the poor, ...	2,036 19
Leaving on hand a balance of, ...	<u>\$895 13</u>

The principal of this fund is \$39,700, bearing interest at the rate of four per cent. per annum. I recommend that \$300 be taken from the income of the fund for the current year and restored to the principal, originally \$40,000.

ASSESSORS' DEPARTMENT.

In 1888 the real estate was valued at, ...	\$24,132,630 00
The personal estate was valued at, ...	9,146,012 00
Total.	<u>\$33,278,642 00</u>
Taxable value of corporate stocks, (estimated), ...	3,919,665 00
Taxable value of bank stocks, (estimated), ...	950,000 00
Total, ...	<u>\$38,148,307 00</u>
The increase of taxable property for the year was, ...	\$1,996,000 00

The property exempt from taxation was valued

at, ... \$1,549,423 00

The rate of tax per thousand was as follows :

City, ...	\$13 45
State, ...	1 14
County, ...	61
Total tax rate per thousand,	\$15 20

SCHOOLS.

I refer you for information concerning the schools to the reports of the school committee and the superintendent.

WATER DEPARTMENT.

It is gratifying to note a steady decrease in the yearly deficit of this department. Its expenses for the past year, including maintenance, service and meter account, rebates, and interest on bonds, were \$77,319.18, an excess of \$9,572.56 over the total receipts, exclusive of the monies, \$2,659 in amount, received for meter rents. The deficit in 1887 was \$11,609.79 and in 1886 \$12,692.91.

BOARD OF HEALTH.

The Board of Health has well discharged its difficult and somewhat delicate duties. The change in its working staff, necessary because the board required the whole time of its agent, resulted in the retirement of an extremely faithful official. Under its new organization the board has been found equal to its work. The appropriation for the year was \$4,500, of which \$1,404.97 was transferred to the treasury with other unexpended balances on the 31st December.

PUBLIC LIBRARY.

Again I refer you for detailed information to the reports which contain it. It is interesting to know that there are now in the Library 28,371 volumes, of which 1,960 were added in

1888. The circulation at Newton was 49,253, and at the other villages, through the agencies, 54,747, making a total circulation of 104,000 in the City.

HIGHWAY DEPARTMENT.

The chronic trouble which pursues this department proceeds from causes some of which are hardly within the control of the committee in charge. The demands of the citizens for work which should be done are far beyond the power of the appropriation to satisfy them. Never having served on the committee, it is with some hesitation that I make any suggestion for improvement in the methods employed. I am satisfied, however, that the chairman and members of this committee will never accomplish satisfactory results until they plan out their whole work early in the year, reserving enough from month to month to meet the so-called extraordinary expenses, which are nevertheless as regular in their recurrence as the snows of winter, the floods of spring and the storms of summer and autumn. Furthermore, the committee is too large for the duties, mainly executive, which come upon it. The efficiency of an executive board is apt to be in inverse ratio to the size of its membership. The principle of ward representation which prevails in the selection of the committee seems to me also to stand in the way of good results for all the people. The sentiment that elevates ward and village interests is strong among us, but it should not be unduly fostered. It should have no place, I think, in determining the selection of committees. It is more necessary on the highway committee than anywhere else in the City Government that the individual member should stand out solely as the representative of all the people of all the villages. I strongly recommend that this committee be reduced to a membership of at most five when you adopt or frame rules for 1889.

STREET LIGHTING.

The question of settling upon a satisfactory general plan

for street-lighting, which has at times engaged the attention of the City Government during nearly two years past, will come before you for final solution. While I have no system to recommend or to criticise, I believe that the time is ripe for the extension of any good system to those parts of Newton which, being thickly settled, are now lighted by nothing more adequate to the need of the citizens than dim and dingy oil lamps. Whatever you decide upon will probaly outline the policy of the City for many years to come, and I strongly urge that the villages of the Upper and Lower Falls and Chestnut Hill be included in any broad general plan that you may adopt. I thoroughly approve of the suggestion of my predecessor that arrangements be made for lighting the streets on all dark or stormy nights without regard to the so-called "moon schedule." I invite your favorable attention to the numerous and pressing petitions for the location of new lights.

POLICE.

The last City Council has provided in its appropriation for two additional patrolmen and for the introduction into Newton of a police signal system. At first somewhat doubting whether this system was so needed in a community like Newton, where the beats are longer and the dangers to be apprehended from professional criminals less than in larger and more compactly populated cities, as to justify us in imposing the additional burden of its cost upon the taxpayers, I have become a convert to its high utility after investigating its operation in neighboring cities. It not only controls the members of the force, but it gives them a moral support of great value in the assurance of ready assistance at the first menace of danger.

FIRE DEPARTMENT.

The efficiency of this department was put to a practical test on the evening of Wednesday, Dec. 27, by sounding the auxiliary alarm in the High School building. You have doubt-

less read in the public press the result of the experiment. It was extremely gratifying to me that the School Board should have this opportunity of proving the discipline and alacrity of the force. The forthcoming report of the chief of the department will contain recommendations for increasing the efficiency of the force, to which I invite your careful consideration. The loss by fire for the year has been less than \$14,000, a loss more than covered by the insurance.

CLAFLIN GUARD.

This organization has maintained its high reputation for efficiency and discipline. Its muster-roll is now practically full.

POOR AND ALMSHOUSE.

For information concerning the poor of Newton, I refer you to the annual report of the Board of Overseers. The time has come for changing the location of the Poor Farm. Although the farm is extremely well kept and the inmates under excellent discipline, sentimental objections too strong to be reasoned away will always make it an incubus upon the development of the neighborhood in which it is situated. The farm is only four minutes walk from Waban Station, occupying high land well adapted for building purposes and destined one day to support a comparatively large population. I think therefore that the question of its removal to some more remote situation should engage your immediate attention.

REGISTRATION.

The registration of Newton reached a total of 3,868 before the State election and 3,895 before the city election. The votes cast were 3,605 at the former and 2,838 at the latter. 182 women registered, of whom 150 voted. The State law permits the erection of an additional voting precinct in a ward containing more than five hundred registered voters. We have

exceeded the necessary limit in every ward of our city. I therefore recommend the establishment of new precincts in Newton Lower Falls, Newton Highlands and Nonantum.

DEPARTMENT APPROPRIATIONS.

The appropriations for the year have been exceeded in nine departments of expenditure out of twenty-eight. In some cases the excess is slight and in some due to unavoidable causes not foreseen when the appropriation was made up; in some, however, it should not have occurred. I again urge upon you the importance of so planning your year's work as to keep the expenditures, which, as members of committees, you recommend for the various departments, well within the appropriations therefor.

Gentlemen of the City Council :

There needs, I am sure, no word from me to remind you that the people of Newton, in selecting you for their municipal service, have conferred upon you a high honor and have committed to your charge responsibilities correspondingly grave. The burden can be rightly borne only in performing disinterestedly the duties of the service, looking over and beyond demands of the individual that stand in the way of the general well-being, remembering that "every good servant does not all commands."

CITY OF NEWTON.

AUDITOR'S ANNUAL REPORT

OF THE

FINANCES OF THE CITY
OF NEWTON,

FOR THE YEAR ENDING DECEMBER 31, 1889.

No. CCXI.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS.

1890.



CONTENTS.

CITY GOVERNMENT, 1889	VII—XX
DUTIES OF THE AUDITOR OF ACCOUNTS	21
AUDITOR'S REPORT	22
CITY TREASURER'S ACCOUNT	25
REPORT OF COMMITTEE ON FINANCE	29
LIABILITIES	31
ASSETS AND RECAPITULATION	33
RECEIPTS	37
EXPENSES	39
TABLE SHOWING APPROPRIATIONS, TRANSFERS, MAYOR'S WARRANTS, ETC.	42
TABLE SHOWING PERMANENT DEBT	45
STATEMENT OF KENRICK FUND	46
TAXES AND TAXABLE VALUATION	46
LEDGER BALANCES	47
REPORT OF COMMISSIONERS OF SINKING FUNDS	49
REPORT OF THE TRUSTEES OF THE READ FUND	53
DETAILED STATEMENT OF RECEIPTS AND EXPENDITURES	53
RECEIPTS.	
Almshouse	53
Armory	54
Board of Health	54
City Engineer's Department	54
City Hall	54
Collector's Fees	54
Corporation Tax	54
Curbing	55
Dog Tax	55
Druggists' License Fees	55
Drains and Culverts	55
Fire Department	55
Funded Debt—Water Bonds	55
Highway Department	56

Interest on Deposits	57
Interest on Taxes	57
Interest on Water Bonds	57
Indigent Soldiers and Sailors	57
Kenrick Fund Income	57
Milk Licenses	58
Miscellaneous	58
National Bank Tax	58
Newton Centre Play Ground	58
Newton Free Library, Catalogue Account	59
Police Department	59
Poor out of Almshouse	59
Public Property	60
Premium on Water Bonds	61
Record and Other Fees	61
Read Fund Income	61
School Incidentals	61
Sinking Fund Commissioners	61
Ships engaged in Foreign Trade	61
State Aid	62
Taxes, 1883 to 1889	62
Tuition for Non-Resident Pupils	62
Temporary Loans	64
Washington Street Bridge	65
Water Meters, Rents	65
Water Meters and Service-Pipes	65
Water-Rates	65
Water-Rates by Meters	65
Water Construction	169
Watering Streets	65

EXPENDITURES.

Almshouse	66
Armory Expenses	68
Bemis Bridge	69
Books, Stationery, and Printing	70
Board of Health	72
Burial Lot, Soldiers and Sailors	76
Burial Grounds	76
Claffin School Building	77
City Engineer's Department	77
City Hall	79

CONTENTS.

v

Elections and Registration of Voters	81
Fire Department	90
Funded Debt, Town Notes	103
Funded Debt, Schoolhouse Note	103
Funded Debt, High School Building	103
Funded Debt, Newton Free Library Building	103
Highways, Curbing	103
Highways, Drains and Culverts	104
Highways, General Repairs	106
Highways, Gravel Land	114
Highways, Land Damages	114
Highways, Removal of Ashes	114
Highways, Sidewalks and Street Crossings	115
Highways, Widening, Reconstruction and Improvements	116
Interest on City Loans, Permanent	117
Interest on City Loans, Temporary	118
Interest on Water Bonds	119
Indigent Soldiers and Sailors	119
Memorial Day	120
Miscellaneous Expenses	120
Newton Free Library	125
Newton Cottage Hospital	128
Parks and Squares	128
Police Department	129
Poor out of Almshouse	134
Public Property	139
Read Fund Income	144
Salaries	144
Schools, Evening	146
Schools, General Appropriation	147
School Incidentals	156
Sanitary Improvement, City Hall	160
Sewerage	160
Sinking Fund, City Debt	161
Sinking Fund, School Loan	161
Sinking Fund, Water Bonds	161
State Aid	161
Street Light Department	162
Taxes 1889, County	163
Taxes 1889, National Bank	163
Taxes 1889, State	163

Temporary Loans—1889	164
Water Construction	164
Water Maintenance	169
Water Meters and Service Pipe	173
Water Rebate	174
Watering Streets, and Water for Same	174
Watering Troughs and Drinking Posts	175
Water, Use of Hydrants	175
Washington Street Bridge, Lower Falls	175
SCHEDULE OF CITY PROPERTY, REAL AND PERSONAL	177
TABLE SHOWING THE NUMBER OF POLLS, REAL AND PERSONAL ESTATE, ETC.	184
TABLE SHOWING AMOUNT PAID FOR SUPPORT OF POOR OUT OF ALMSHOUSE, FROM 1851 TO 1889 INCLUSIVE	185
SALARIES OF CITY OFFICERS, 1889	185
CITY GOVERNMENT, 1890	191
CITY CLERK'S STATEMENT OF BIRTHS, MARRIAGES AND DEATHS, FEES, DOGS	199

OFFICERS
OF THE
NEWTON CITY GOVERNMENT,
1889.

MAYOR.

HEMAN M. BURR.

Office Hour at City Hall :

9 A. M. Daily.

BOARD OF ALDERMEN.

President, GEORGE PETTEE.

WARD ONE.

EDWIN O. CHILDS.

WARD THREE.

ADAMS K. TOLMAN.

WARD FIVE.

GEORGE PETTEE.

WARD TWO.

N. HENRY CHADWICK

WARD FOUR.

FREDERICK JOHNSON

WARD SIX.

WILLIAM F. HARBACH

WARD SEVEN.

JOHN C. KENNEDY.*

Clerk of Board of Aldermen.

ISAAC F. KINGSBURY.

COMMON COUNCIL.

President, LAWRENCE BOND.

WARD ONE.

ALBERT W. RICE.

REUBEN FORKNALL.

WARD THREE.

LAWRENCE BOND.

ARTHUR F. LUKE.

WARD TWO.

JOHN A. FENNO

EDMUND T. WISWALL

WARD FOUR.

EVERETT E. MOODY

FREDERICK J. RANLETT

*Resigned July 8. EPHRAIM S. HAMBLÉN elected to fill vacancy, September 3.

WARD FIVE.

FRANK J. HALE.*

ELLIOTT J. HYDE.

WARD SIX.

GEORGE F. RICHARDSON

ALBERT H. ROFFE

WARD SEVEN.

EPHRAIM S. HAMBLEM.†

LOUIS A. HALL

Clerk of Common Council.

JOHN C. BRIMBLECOM.

City Clerk.

ISAAC F. KINGSBURY.

City Treasurer, and Collector of Taxes.

JOHN A. KENRICK.

Deputy Collector.

MOSES CLARK, JR.

City Auditor.

BENJAMIN F. OTIS.

City Solicitor.

WINFIELD S. SLOCUM.

City Engineer.

ALBERT F. NOYES.

Superintendent of Streets.

WILLIAM E. FULLER.

Water Registrar.

ALBERT S. GLOVER.

Superintendent of Water Works.

N. N. HYDE, JR.

Agent of the Board of Health.

WILLIAM S. FRENCH.

City Messenger.

JOSEPH D. WELLINGTON.

* Resigned July 8. Edward L. Collins elected to fill vacancy, Sept. 3.

† Resigned Sept. 3. William C. Bates elected to fill vacancy, Sept. 30.

CITY GOVERNMENT.

ix

ASSESSORS' DEPARTMENT.

Assessors.

SAMUEL M. JACKSON, Chairman	.	.	.	.	Term expires January, 1891
HOWARD B. COFFIN	.	.	.	.	" " " 1890
CHARLES A. MINER, Secretary	.	.	.	.	" " " 1892

Assistant Assessors (elected annually.)

Ward 1.—R. ORLANDO EVANS.	Ward 4.—BERNARD EARLY.
Ward 2.—A. A. SAVAGE.	Ward 5.—WILLIAM E. CLAKE.
Ward 3.—WILLARD P. PLIMPTON.	Ward 6.—GEORGE WARREN.
Ward 7.—EDWARD W. COBB.	

SCHOOL COMMITTEE.

Hon. HEMAN M. BURR, Mayor, Chairman, *ex officio*.
 LAWRENCE BOND, President Common Council, *ex officio*.
 CHARLES C. BARTON, Chairman.
 THOMAS EMERSON, Secretary and Superintendent.

ELECTED MEMBERS.	WARDS.	TERM OF OFFICE EXPIRES.
*BRADFORD K. PIERCE	I. .	January, 1892
J. EDWARD HOLLIS	I. .	January, 1892
JOHN W. DICKINSON	II. .	January, 1892
MARY R. MARTIN	II. .	January, 1892
SAMUEL BARNARD	III. .	January, 1891
ABBY E. DAVIS	III. .	January, 1891
DAVID E. BAKER	IV. .	January, 1891
CHARLES E. PARKER	IV. .	January, 1891
**WALTER C. FROST	V. .	January, 1890
ALBERT B. PUTNEY	V. .	January, 1890
CHARLES C. BARTON	VI. .	January, 1890
WILLIAM D. PHILBRICK	VI. .	January, 1890
GEORGE W. SHINN	VII. .	January, 1890
FRANCIS B. HORN BROOKE	VII. .	January, 1891

STANDING COMMITTEES.

High School.

CHARLES C. BARTON. JOHN W. DICKINSON.
 FRANCIS B. HORN BROOKE.

*Deceased. CHARLES A. DREW was elected to fill the vacancy.

**Resigned. FRANK J. HALE was elected to fill the vacancy.

*CITY GOVERNMENT.***Ward One.**

BRADFORD K. PEIRCE.

J. EDWARD HOLLIS.

FRANCIS B. HORN BROOKE.

Ward Two.

JOHN W. DICKINSON.

MARY R. MARTIN.

GEORGE W. SHINN.

Ward Three.

ABBY E. DAVIS.

SAMUEL BARNARD.

LAWRENCE BOND.

Ward Four.

CHARLES E. PARKER.

DAVID E. BAKER

SAMUEL BARNARD.

Ward Five.

ALBERT B. PUTNEY.

WALTER C. FROST.

WILLIAM D. PHILBRICK.

Ward Six.

CHARLES C. BARTON.

WILLIAM D. PHILBRICK.

BRADFORD K. PEIRCE.

Ward Seven.

GEORGE W. SHINN.

FRANCIS B. HORN BROOKE.

J. EDWARD HOLLIS.

Evening Schools.

GEORGE W. SHINN.

BRADFORD K. PEIRCE.

MARY R. MARTIN.

Drawing, Music, and Sewing.

ABBY E. DAVIS.

ALBERT B. PUTNEY.

MARY R. MARTIN.

Text Books.

CHARLES C. BARTON.

FRANCIS B. HORN BROOKE.

ALBERT B. PUTNEY.

Rules and Regulations.

WALTER C. FROST.

GEORGE W. SHINN.

BRADFORD K. PEIRCE.

Salaries.

FRANCIS B. HORN BROOKE.

SAMUEL BARNARD.

J. EDWARD HOLLIS.

School Houses.

JOHN W. DICKINSON.

CHARLES E. PARKER.

J. EDWARD HOLLIS.

Accounts.

SAMUEL BARNARD.

ABBY E. DAVIS.

LAWRENCE BOND.

Supplies.

WILLIAM D. PHILBRICK.

CHARLES E. PARKER.

WALTER C. FROST.

WATER BOARD.**At Large.**EDWARD W. CATE, *President.*

FRANCIS A. DEWSON.

CHARLES FRED CREHORE. *

From the Board of Aldermen.

WILLIAM F. HARBACH.

From the Common Council.

EDMUND T. WISWALL.

ALBERT S. GLOVER, *Clerk.***POOR DEPARTMENT.****Board of Overseers.**THE MAYOR, *ex-officio* Chairman.

Ward 1.—R. ORLANDO EVANS.

Ward 4.—NATHAN MOSMAN.

Ward 2.—JOHN F. PAYNE.

Ward 5.—EUGENE FANNING.

Ward 3.—ANDREW J. FISKE.

Ward 6.—GEORGE WARREN.

Ward 7. JOHN WARNER. †

NATHAN MOSMAN, *City Almoner*NATHAN MOSMAN, *Clerk of Board*NATHANIEL D. MOODY, *Warden of Almshouse.*MRS. ELIZA A. MOODY, *Matron.*

*Resigned January 7. LEVI C. WADE appointed to fill vacancy.

†Died August 20. HENRY C. DANIELS elected to fill vacancy September 16.

CITY GOVERNMENT.

BOARD OF HEALTH.

THE MAYOR, *ex-officio*,
OTIS PETTEE, *President*.

From the Board of Aldermen.

ADAMS K. TOLMAN.*

From the Common Council.

EDMUND T. WISWALL.

At Large.

J. FRANKLIN FULLER, C. E.

JESSE F. FRISBIE, M. D.

OTIS PETTEE.

Clerk and Agent of Board.

WILLIAM S. FRENCH.

Agent for Inspection of Plumbing.

WILLIAM S. FRENCH.

FIRE DEPARTMENT.

HENRY L. BINBY, *Chief of Department*.

WALTER B. RANDLETT,

Assistant Chief of Department, and Fire Alarm Telegraph Operator.

TRUSTEES OF PUBLIC LIBRARY.

At Large.

JOHN S. FARLOW, *President*.

JOHN C. KENNEDY, *Superintendent*.

WILLIAM CLAFLIN.

A. LAWRENCE EDMANDS.

JULIUS L. CLARKE.

From the Board of Aldermen.

JOHN C. KENNEDY.†

From the Common Council.

FRANK J. HALE.‡

ELIZABETH P. THURSTON, *Librarian*.

*Resigned September 16. EPHRIAM S. HAMBLIN appointed to fill vacancy September 16 and resigned October 28. WILLIAM F. HARBACH, appointed to fill vacancy November 11.

†Resigned July 8. EPHRIAM S. HAMBLIN appointed to fill vacancy September 16.

‡Resigned July 8. EDWARD L. COLLINS appointed to fill vacancy September 16.

CITY GOVERNMENT.

xiii

Sinking Fund Commissioners, and Trustees of the Read Fund.

GEORGE S. BULLENS, *Chairman.*

ALDEN SPEARE.

GEORGE C. LORD.

BENJAMIN F. OTIS, *Secretary.*

Registrars of Voters.

GEORGE E. BRIDGES, *Chairman.*

ISAAC F. KINGSBURY, *Clerk.*

GEORGE H. BOURNE.

RICHARD T. SULLIVAN.*

CIVIL SERVICE EXAMINERS.

LUCIUS G. PRATT, *Chairman.*

HENRY C. HAYDEN, *Secretary.*

DWIGHT CHESTER.

POLICE DEPARTMENT.

CHARLES F. RICHARDSON, *City Marshal.*

CHARLES E. DAVIS, *Captain of Police.*

CHARLES P. HUESTIS, *Sergeant of Police.*

Police Officers.

JAMES D. HENTHORN.

WILLIAM C. EMERSON.

NOAH F. BOSWORTH.

GEORGE E. F. BAKER.†

CHARLES O. DAVIS.

EDSON C. HOLMES.

JOHN RYAN.

JOHN W. CONROY, Junr.

CHARLES T. BARTLETT.

WILLIAM P. SOULE.

WILLIAM A. LEONARD.

ROBERT S. HARRISON.

FRANK B. FLETCHER.

JOHN PURCILL.

RUFUS H. MOULTON.

W. G. BOSWORTH.

AMBROSE M. FULLER.

THOMAS C. CLAY.

JOHN W. QUILTY.

AURELIUS F. G. LIBBY.

BERNARD F. BURKE.

RICHARD B. CONROY.

ELECTION OFFICERS 1889.

WARD ONE.

Warden	R. ORLANDO EVANS
Deputy Warden	EDWIN A. SMALLWOOD
Clerk	SETH C. STEVENS

*AMOS L. HALE. Appointed September 23 for unexpired term of 3 years from May 1st.

†Died March 4th.

Deputy Clerk	GEORGE R. ASTON
Inspector	CHARLES H. STUART
Inspector	HERBERT H. POWELL
Inspector	WILLIAM F. GRACE
Inspector	FRED H. LOVELAND
Deputy Inspector	ALBERT P. BUGBEE
Deputy Inspector	EDWIN F. SMALLWOOD
Deputy Inspector	CHARLES A. HAHN*
Deputy Inspector	ARTHUR S. BUCKINGHAM

PRECINCT ONE, WARD TWO.

Warden	HENRY P. DEARBORN
Deputy Warden	CHARLES B. LOVELL
Clerk	LOUIS E. G. GREEN
Deputy Clerk	URIAH H. DYER
Inspector	LAWRENCE H. CRANITCH
Inspector	J. D. BILLINGS
Inspector	ELBRIDGE BRADSHAW
Inspector	LOUIS WATSON
Deputy Inspector	WALTER CONNORS
Deputy Inspector	THEODORE G. CUTLER
Deputy Inspector	WILLIAM J. DUNN
Deputy Inspector	EDWARD M. RUMERY

PRECINCT TWO, WARD TWO.

Warden	WILLARD S. HIGGINS
Deputy Warden	ALFRED B. TAINTER
Clerk	GEORGE A. MEAD
Deputy Clerk	JAMES W. PAGE
Inspector	W. W. PALMER
Inspector	JOHN W. COTTON
Inspector	E. W. BAILEY
Inspector	JOHN H. WILLIAMS
Deputy Inspector	A. A. SAVAGE
Deputy Inspector	CHARLES H. JOHNSON
Deputy Inspector	WALTER S. CUNNINGHAM
Deputy Inspector	GEORGE M. BRIDGES

*Resigned November 25

CITY GOVERNMENT.

xv

WARD THREE.

Warden	HARVEY C. WOOD
Deputy Warden	FRANK E. HUNTER
Clerk	GEORGE M. COX
Deputy Clerk	EUGENE F. CONROY
Inspector	ARTHUR R. COE
Inspector	FRANK H. HUMPHREY
Inspector	STUART A. PRATT
Inspector	GEORGE L. V. TYLER
Deputy Inspector	EDWARD L. LEMON
Deputy Inspector	FRANK C. SHERIDAN
Deputy Inspector	C. H. WYMAN
Deputy Inspector	JOHN W. GAW

WARD FOUR.

Warden	GEORGE E. JOHNSON
Deputy Warden	BERNARD EARLY
Clerk	HENRY H. MATHER
Deputy Clerk	LYMAN G. SNOW
Inspector	HENRY WASHBURN
Inspector	GEORGE W. CHAMBERLAIN
Inspector	BENJ. B. CLARK
Inspector	FRED PLUMMER
Deputy Inspector	THOMAS C. DONOVAN
Deputy Inspector	ANDREW B. HAYDEN
Deputy Inspector	EDWARD H. KENNEY
Deputy Inspector	FRANK R. KIMBALL

PRECINCT ONE, WARD FIVE.

Warden	ALBERT J. GROVER
Deputy Warden	JOHN W. HOWE
Clerk	FRANK W. BARNEY
Deputy Clerk	CHARLES B. BANCROFT
Inspector	DANIEL KELLIHER
Inspector	OTIS PETTEE
Inspector	MARTIN H. DURAN
Inspector	ERASTUS GOTT
Deputy Inspector	J. F. BROWN
Deputy Inspector	JOHN J. KENEFICK
Deputy Inspector	EBEN THOMPSON
Deputy Inspector	FRANK FANNING

CITY GOVERNMENT.

PRECINCT TWO, WARD FIVE.

Warden	JOSEPH R. SMITH
Deputy Warden	JOHN GLOVER
Clerk	FRED. B. SPEARE
Deputy Clerk	E. H. GREENWOOD
Inspector	FRED. A. O'CONNOR
Inspector	CHARLES H. BURR
Inspector	GEORGE F. LEONARD
Inspector	HORACE W. TAYLOR
Deputy Inspector	DANIEL J. CLIFEORD
Deputy Inspector	CHARLES F. HALL
Deputy Inspector	ALFRED W. SMALL
Deputy Inspector	NEWTON CRANE

WARD SIX.

Warden	SAMUEL M. JACKSON
Deputy Warden	ASA C. JEWETT
Clerk	ZADOC LONG
Deputy Clerk	GEORGE E. WALES
Inspector	JAMES W. HILL
Inspector	ARTHUR MULDOON
Inspector	D. H. MCWAIN
Inspector	HOWARD CARLETON
Deputy Inspector	WALTER THORPE
Deputy Inspector	HARVEY G. RUHE
Deputy Inspector	WALTER H. THORPE
Deputy Inspector	HENRY A. TOMLINSON

WARD SEVEN.

Warden	AMASA W. B. HUFF
Deputy Warden	J. EDWARD HILLS
Clerk	MOSES CLARK, JR
Deputy Clerk	HENRY C. DANIELS
Inspector	ROBERT B. EDES
Inspector	GEORGE W. LAMSON
Inspector	ARTHUR C. MUDGE*
Inspector	GEORGE M. WEED
Deputy Inspector	JOSEPH W. HOWARD
Deputy Inspector	LEWIS H. FARLOW†
Deputy Inspector	M. V. B. PAINE
Deputy Inspector	GEORGE S. BRAZER

*Resigned November 18. LEWIS H. FARLOW appointed to fill vacancy November 18.

†FRANCIS A. BARROWS, Deputy Inspector, Vice FARLOW appointed Inspector, confirmed November 25.

JOINT STANDING COMMITTEES OF THE CITY COUNCIL.

Committee on Finance and Salaries.

ALDERMEN.

ADAMS, K. TOLMAN.

EDWIN O. CHILDS

COUNCILMEN.

President LAWRENCE BOND.

EVERETT E. MOODY.

JOHN A. FENNO

Committee on Accounts.

ALDERMEN.

EDWIN O. CHILDS.

ADAMS K. TOLMAN

COUNCILMEN.

GEORGE F. RICHARDSON.

LOUIS A. HALL

ELLIOTT J. HYDE.

Committee on Public Property.

ALDERMEN.

N. HENRY CHADWICK.

GEORGE PETTEE

COUNCILMEN.

ALBERT H. ROFFE.

REUBEN FORKNALL

LOUIS A. HALL.

Committee on State Aid, Soldiers' Relief and Military Affairs.

ALDERMEN.

N. HENRY CHADWICK.

EDWIN O. CHILDS

COUNCILMEN.

ARTHUR F. LUKE.

REUBEN FORKNALL

ALBERT H. ROFFE.

Committee on Fuel and Street Lights.

ALDERMEN.

FREDERICK JOHNSON.

JOHN C. KENNEDY*

COUNCILMEN.

JOHN A. FENNO.

FRANK J. HALE†

ARTHUR F. LUKE.

Committee on Fire Department.

ALDERMEN.

GEORGE PETTEE.

N. HENRY CHADWICK

COUNCILMEN.

FREDERICK J. RANLETT.

EPHRAIM S. HAMBLÉN‡

GEORGE F. RICHARDSON.

*Resigned July 8. EPHRAIM S. HAMBLÉN appointed to fill vacancy September 16.

†Resigned July 8. EDWARD L. COLLINS appointed to fill vacancy September 16.

‡Resigned September 3. LOUIS A. HALL appointed to fill vacancy.

Committee on Highways, Streets and Ways, Sidewalks, Drains and Culverts.

ALDERMEN.

WILLIAM F. HARBACH.

GEORGE PETTEE

N. HENRY CHADWICK.

COUNCILMEN.

EVERETT E. MOODY.

EPHRAIM S. HAMBLÉN*

ALBERT W. RICE.

ARTHUR F. LUKE

Committee on Printing.

ALDERMAN.

FREDERICK JOHNSON.

COUNCILMEN.

EVERETT E. MOODY.

EDMUND T. WISWALL

Committee on Ordinances.

ALDERMEN.

EDWIN O. CHILDS.

WILLIAM F. HARBACH

COUNCILMEN.

FREDERICK J. RANLETT.

JOHN A. FENNO

FRANK J. HALE.†

Committee on Claims.

ALDERMEN.

JOHN C. KENNEDY.‡

N. HENRY CHADWICK

COUNCILMEN.

President LAWRENCE BOND.

FREDERICK J. RANLETT.

ELLIOTT J. HYDE

Committee on Almshouse and Poor.

ALDERMAN.

GEORGE PETTEE.

COUNCILMEN.

EDMUND T. WISWALL.

GEORGE F. RICHARDSON

Committee on Assessors' Department.

ALDERMAN.

WILLIAM F. HARBACH.

COUNCILMEN.

EVERETT E. MOODY.

ELLIOTT J. HYDE

*WILLIAM C. BATES appointed to fill vacancy.

†Resigned. EDWARD L. COLLINS appointed to fill vacancy September 16.

‡Resigned July 8. EPHRAIM S. HAMBLÉN appointed to fill vacancy September 16.

CITY GOVERNMENT.

xix

Highway Surveyors.

ALDERMEN.

WILLIAM F. HARBACH.

GEORGE PETTEE

N. HENRY CHADWICK.

COUNCILMEN.

EVERETT E. MOODY.

EPHRAIM S. HAMBLÉN*

ALBERT W. RICE.

ARTHUR F. LUKE.

Committee on Parks, Squares, and Burial Grounds.

ALDERMEN.

GEORGE PETTEE.

FREDERICK JOHNSON

COUNCILMEN.

ALBERT W. RICE.

ERMOND T. WISWALL

ALBERT H. ROFFE.

JOINT SPECIAL COMMITTEES.

Sewerage.

ALDERMEN.

N. HENRY CHADWICK.

ADAMS K. TOLMAN

COUNCILMEN.

ALBERT W. RICE.

FRANK J. HALE†

FREDERICK J. RANLETT.

Rules and Orders.

ALDERMEN.

EDWIN O. CHILDS.

WILLIAM F. HARBACH

COUNCILMEN.

FREDERICK J. RANLETT.

JOHN A. FENNO

FRANK J. HALE.‡

Read Fund.

ALDERMEN.

JOHN C. KENNEDY.§

EDWIN O. CHILDS

COUNCILMEN.

ALBERT W. RICE.

REUBEN FORKNALL

EPHRAIM S. HAMBLÉN.**

LOUIS A. HALL.

Revision of the Ordinances.

At Large, EDWARD H. MASON.***

From the Board of Aldermen, EDWIN O. CHILDS.

From the Common Council, FREDERICK J. RANLETT.

*Resigned September 3. WILLIAM C. BATES appointed to fill vacancy.

†Resigned July 8. ELLIOTT J. HYDE appointed to fill vacancy.

‡Resigned July 8. EDWARD L. COLLINS appointed to fill vacancy September 16.

§Resigned July 8. EPHRAIM S. HAMBLÉN appointed to fill vacancy September 16.

**WILLIAM C. BATES, Vice HAMBLÉN.

***Resigned September 16. WILLIAM B. FOWLE appointed to fill vacancy, declined.

ELIJAH W. WOOD appointed to fill vacancy.

*CITY GOVERNMENT.***Removal of Almshouse.**

THE MAYOR.

ALDERMEN.

N. HENRY CHADWICK.

GEORGE PETTEE

COUNCILMEN.

ALBERT H. ROFFE.

REUBEN FORKNALL.

LOUIS A. HALL.

EDMUND T. WISWALL

GEORGE F. RICHARDSON.

STANDING COMMITTEE, BOARD OF MAYOR AND ALDERMEN.**Committee on Police.**

THE MAYOR.

FREDERICK JOHNSON.

JOHN C. KENNEDY.*

Committee on Licenses, Weights and Measures.

ALDERMEN.

FREDERICK JOHNSON.

N. HENRY CHADWICK

STANDING COMMITTEES, BOARD OF ALDERMEN.**Committee on Elections and Returns.**

ALDERMEN.

GEORGE PETTEE.

EDWIN O. CHILDS

Committee on Enrolled Ordinances and Resolutions.

ALDERMEN.

EDWIN O. CHILDS.

JOHN C. KENNEDY†

STANDING COMMITTEE OF THE COMMON COUNCIL.**Committee on Enrolled Ordinances and Resolutions.**

COUNCILMEN.

EVERETT E. MOODY.

EPHRAIM S. HAMBLIN.‡

ELLIOTT J. HYDE.

Clerk of Committees.

BENJAMIN F. OTIS.

*Resigned July 8. ADAMS K. TOLMAN appointed to fill vacancy September 16.

†EPHRAIM S. HAMBLIN appointed to fill vacancy.

‡Resigned September 3. EDWARD L. COLLINS appointed to fill vacancy.

DUTIES OF THE AUDITOR OF ACCOUNTS.

THE following are the important provisions of the Ordinance setting forth the duties of the City Auditor:—

The Auditor shall receive all accounts and claims against the City, after the same shall have been certified by the Committee, or the proper certifying officers authorized on behalf of the City to make the contract, or cause the expenditure to be made. He shall carefully examine all such accounts and claims, see that they are correctly cast and duly authorized by the City Council or its order, and, having certified to the same, shall present them properly filed and labelled, to the Committee on Accounts.

The Auditor shall act as clerk of the several standing and joint standing committees, and as secretary of the Sinking Fund Commissioners and Trustees of the Read Fund, without extra compensation.

The Auditor on or before the first day of March annually, shall make report to the City Council of the receipts and expenditures of the past financial year, in detail, and shall give, in his report, a schedule of the property of the City and of leases thereof, and an exhibit of the loans or debts bearing interest, due from the city, the rates of interest, and the time when payable. He shall each month transmit to the Mayor, and each member of the City Council, a statement showing the amounts expended and unexpended of each appropriation.

AUDITOR'S REPORT.

CITY OF NEWTON, AUDITOR'S DEPARTMENT,
March 17, 1890.

TO THE HONORABLE CITY COUNCIL:

Gentlemen,—In conformity with the requirements of the several sections of the City Ordinances, I have the honor to present herewith the Annual Report of the receipts and expenditures of the City of Newton for the financial year commencing Jan. 1, and terminating Dec. 31, 1889, with a detailed account of each department, a statement of the liabilities and assets, a table showing the funded debt, the rates of interest, and times when notes and bonds are payable, another showing appropriations, mayor's drafts, treasurer's payments and balances, a statement of the Sinking Funds and of the Read Fund, a summary statement of receipts and expenditures for the year, a statistical table, showing the number of polls, real and personal estate, town, city, county, and state taxes, rate of taxation, appropriations, etc., with the number of houses from year to year for twenty-nine consecutive years. Among the remaining tabulations will be found a schedule of the City property so arranged as to show in separate classification the property belonging to the almshouse, fire, highway, school, and other departments. In addition to these, is also given such other information appertaining to the fiscal interests of the City as may possess general interest.

Very respectfully,

BENJAMIN F. OTIS,

Auditor.

CITY OF NEWTON, DEC. 31, 1889

TO THE HONORABLE MAYOR AND CITY COUNCIL:

Gentlemen:—In accordance with Section 11, Ordinance 4, I have the honor to lay before you the statement of the receipts and expenditures of the Treasury Department for the year ending December 31, 1889.

Very respectfully yours,

JOHN A. KENRICK,

Treasurer and Collector.

CITY TREASURER'S ACCOUNT.

CITY OF NEWTON *in account with* JOHN A. KENRICK,
Treasurer and Collector.

YEAR ENDING DECEMBER 31, 1889.

DR.

Alms-house expenses and repairs	\$4,111 40
Armory	1,222 79
Bemis bridge	8,745 57
Books, stationery and printing	3,940 48
Board of Health	6,792 69
Burial lot, Newton Cemetery	3,500 00
Burial grounds	719 18
Clafin school	4,666 52
Curbing	1,888 29
City Hall	2,106 43
City Engineer's department	8,101 59
County tax	26,406 19
Drains and culverts	12,919 93
Elections and registration of voters	4,799 02
Evening schools	659 75
Fire department	28,933 32
Funded debt, 4 per cent. note	23,000 00
Funded debt, 4 per cent. note, school loan	5,150 00
Funded debt, 3 1-2 per cent. note	4,500 00
<i>Amount carried forward</i>	\$152,163 15

<i>Amount brought forward</i>	\$152,163 15
Funded debt, 3 1-2 per cent. note, Free Library,	4,600 00
Gravel land	2,445 10
Highways, general repairs	73,480 55
Highways, widening	15,200 90
Interest on city loans, permanent	13,616 00
Interest on city loans, temporary	5,866 34
Interest on water bonds	61,340 00
Indigent soldiers and sailors	1,013 00
Kenrick fund	667 50
Land damages	550 00
Memorial Day	500 00
Miscellaneous expenses	10,280 69
Morse field drain	408 36
Newton Cottage Hospital	1,500 00
Newton Free Library	10,350 76
National bank tax	1,544 52
Overlay, 1887	20 54
Overlay, 1888	1,507 18
Overlay, 1889	3,945 76
Parks and squares	1,926 48
Police department	25,984 14
Poor out of almshouse	8,320 43
Public property	13,949 15
Read fund income	1,883 16
Removal of ashes	3,702 86
Salaries	19,654 08
Schools	107,529 34
School incidentals	10,382 73
Sanitary improvement, City Hall	2,200 00
Sewerage	117 84
<i>Amount carried forward</i>	\$556,650 56

<i>Amount brought forward</i>	\$556,650 56
Sidewalks	15,953 79
Sinking fund, city debt	23,000 00
Sinking fund, school loan	4,000 00
Sinking fund, water bonds	22,000 00
State tax	34,060 00
Street lights	22,043 10
State aid	1,126 00
Temporary loans	469,700 00
Thompsonville school-house	1,149 18
Use of hydrants	11,320 00
Water construction	51,403 92
Water maintenance	15,627 63
Water maintenance, meter and service pipe	3,521 68
Water rebate	414 51
Watering streets	6,104 84
Watering troughs and drinking posts	1,078 23
Washington street bridge	4,440 32
	\$1,243,593 76
Balance in the treasury Dec. 31, 1889	68,130 24
	<u>\$1,311,724 00</u>

CR.

Balance in the treasury December 31, 1888	\$64,817 46
Alms-house	1,784 17
Armory	400 00
Board of Health	102 66
City Engineer's department	189 96
City Hall	1,069 50
Collector's fees	380 49
<i>Amount carried forward</i>	\$68,744 24

<i>Amount brought forward</i>	\$68,744 24
Corporation tax	59,216 53
Curbing	1,199 01
Dog tax	2,708 52
Drains and culverts	350 00
Druggists' licenses	21 00
Fire department	1 50
Foreign ships	821 83
Funded debt, 4 per cent. water bonds	52,000 00
Highways	2,555 82
Interest on bank deposits	772 24
Interest on taxes	2,892 49
Interest on water scrip	244 45
Indigent soldiers and sailors	455 00
Kenrick fund income	127 50
Meter rents	3,193 05
Milk licenses	65 00
Miscellaneous	157 63
National bank tax	13,480 35
Newton Centre play-ground committee	6,000 00
Newton Free Library, catalogue account	14 00
Police department	998 98
Poor out of almshouse	1,761 58
Public property	276 93
Premium on water scrip	4,964 00
Record and other fees	353 75
Read fund income	1,614 22
Sinking fund commissioners (to pay note)	23,000 00
School incidentals	84
State aid	974 00
Taxes, 1883	20 00
<i>Amount carried forward</i>	\$248,984 46

<i>Amount brought forward</i>	\$248984, 46
Taxes, 1884	4 80
Taxes, 1885	146 53
Taxes, 1886	164 67
Taxes, 1887	2,859 18
Taxes, 1888	91,902 85
Taxes, 1889	433,910 88
Tuition of non-resident pupils	473 50
Temporary loans	460,000 00
Washington street bridge	174 77
Water maintenance, meter and service pipes	5,907 70
Water rates	19,429 81
Water rates by meters	47,145 21
Water construction	7 60
Watering streets	612 04
	\$1,311,724 00

CITY OF NEWTON, CITY HALL,
West Newton, Jan. 6, 1890.

The Joint Committee on Finance beg leave to report that in pursuance of Section 13, Ordinance 4, they have examined the books and accounts of the Treasurer and Collector for the financial year ending December 31, 1889, and find them correct in all respects and all payments properly vouched.

Cash on hand December 31, 1888	\$64,817 46
Total cash receipts for the year ending Dec. 31,	
1889	1,246,906 54
	\$1,311,724 00
Payments for the year	1,243,593 76
Cash on hand at close of business, Dec. 31,	
1889	\$68,130 24

This balance has been verified by the examination of the bank balances, to the credit of the city, and cash and cash items in the office.

They further report that there remains due and uncollected the following taxes and assessments:

Taxes, 1883, and previous years		\$2,013 09
Taxes, 1884		1,527 78
Taxes, 1885		1,456 26
Taxes, 1886		2,749 52
Taxes, 1887		2,050 73
Taxes, 1888		5,109 10
Taxes, 1889		93,043 74
		\$107,950 22
Curbing assessments		456 98
Betterments on drains, Wards 1 and 2, estimated		700 00
		\$109,107 20

Respectfully submitted,

ADAMS K. TOLMAN.
LAWRENCE BOND.
EVERETT E. MOODY.
JOHN A. FENNO.

**LIABILITIES OF THE CITY OF NEWTON TO DEC. 31, 1889,
INCLUSIVE.**

Water loan, 6 per cent. . .	\$600,000 00	
Accrued interest on same . .	18,000 00	
Water loan, 5 per cent. . .	250,000 00	
Accrued interest on same . .	6,250 00	
Water loan, 4 per cent. . .	367,000 00	
Accrued interest on same . .	3,670 00	
		\$1,244,920 00
Town notes, 6 per cent. . .	\$97,000 00	
Accrued interest on same . .	1,444 49	
		98,444 49
Municipal bonds, 5 per cent. .	\$34,000 00	
Accrued interest on same . .	850 00	
		34,850 00
Public park bonds, 4 per cent.	\$25,000 00	
Accrued interest on same . .	250 00	
		25,250 00
School house notes, 4 per cent.	\$25,750 00	
Accrued interest on same . .	446 33	
		26,196 33
School loan bonds 4 per cent. .	\$44,000 00	
Accrued interest on same . .	440 00	
		44,440 00
High School loan, 3 1-2 per cent.	\$31,500 00	
Accrued interest on same . .	257 25	
		31,757 25
Newton Free library loan, 3 1-2 per cent.	\$9,200 00	
Accrued interest on same . .	77 82	
		9,277 82
Temporary loans	\$100,000 00	
Accrued interest on same . .	133 33	
		100,133 33
<i>Amount carried forward,</i>		\$1,615,269 22

<i>Amount brought forward,</i>	\$1,615,269 22
Uninvested portion of principal of Kenrick Fund . . .	\$2,750 00
Accrued interest on same . . .	115 00
	2,865 00
Suspense account, amount in treasury subject to call by sundry parties . . .	738 05
Read Fund income	626 19
Premium on tax sale	109 00
Special deposit made by Newton Centre Play Ground committee for purchase of land for Play Ground	6,000 00
Mayor's warrants unpaid, ap- propriation	33,524 19
Mayor's warrants unpaid, water construction,	1,851,72
<i>Amount carried forward,</i>	\$1,660,983 37

DETAILED STATEMENT OF ASSETS.

<i>Amount brought forward,</i>		\$1,660,983 37
Balance of taxes		
1883 and previ-		
vious years .	\$2,013 09	
Balance of taxes		
1884 . . .	1,527 78	
Balance of taxes		
1885 . . .	1,456 26	
Balance of taxes		
1886 . . .	2,749 52	
Balance of taxes		
1887 . . .	2,050 73	
Balance of taxes		
1888 . . .	5,109 10	
Balance of taxes		
1889 . . .	93,043 74	
		\$107,950 22

Due from Commonwealth of
Massachusetts, as follows : —

On account of aid to soldiers
and sailors under Chapters

301 and 279 Acts of 1889 .	1,500 00
Balance of corporation tax .	2,719 37
Balance of National Bank tax .	314 69

Due from miscellaneous
sources, namely : —

Due from county treasurer, dog tax 1889	2,911,94
--	----------

<i>Amounts carried forward</i>		
	\$115,396 22	\$1,660,983 37

<i>Amounts brought forward</i>	\$115,396 22	\$1,660,983 37
From sundry persons for betterments on drains, Wards 1 and 2, estimated . . .	700 00	
From sundry persons, sidewalks, curbing assessments, etc. . .	456 98	
Cash on hand . . .	68,130 24	

Sinking Funds.

Water debt sinking fund : —		
City of Newton		
water bonds, 5		
per cent. . .	\$73,000 00	
City of Newton		
water bonds, 4		
per cent. . .	179,000 00	
City of Newton		
schoolhouse note,		
4 per cent. . .	5,150 00	
Cash on deposit on		
interest . . .	30,180 40	
		\$287,330 40
City debt sinking fund : —		
Cash on deposit on interest,	\$306 31	
Public Park sinking fund : —		
City of Newton		
water bonds 4		
per cent. . .	\$14,000 00	
Cash on deposit on		
interest . . .	1,250 15	
		\$15,250 15
<i>Am'ts carried forward</i>		
	\$487,570 30	\$1,660,983 37

<i>Am'ts brought forward</i>	\$487,570 30	\$1,660,983 37
School loan sinking fund: —		
City of Newton		
water bonds 4		
per cent. . . . \$14,000 00		
Cash on deposit on		
interest . . . 4,480 74		
	<u>\$18,480 74</u>	
		506,051 04
		<u>\$1,154,932 33</u>

RECAPITULATION.

Water Debt.

Water loan	\$1,217,000 00	
Accrued interest on same	27,920 00	
Mayor's warrants unpaid for		
construction	1,851 72	
	<u>\$1,246,771 72</u>	
Sinking fund	287,330 40	
Net water liability	<u> </u>	\$959,441 32

City Debt, exclusive of Water Debt.

Town notes	\$97,000 00	
Accrued interest on same	1,444 49	
	<u> </u>	\$98,444 49
Municipal Bonds	\$34,000 00	
Accrued interest on same	850 00	
	<u> </u>	34,850 00
Public Park bonds	\$25,000 20	
Accrued interest on same	250 00	
	<u> </u>	25,250 00
Schoolhouse notes	\$25,750 00	
Accrued interest on same	446 33	
	<u> </u>	26,196 33
<i>Amount carried forward</i>		<u>\$184,740 82</u>

<i>Amount brought forward</i>	.	.	.	\$184,740 82
School loan bonds	.	.	\$44,000 00	
Accrued interest on same	.		440 00	
				44,440 00
High school loan	.	.	\$31,500 00	
Accrued interest on same	.		257 25	
				31,757 25
Newton Free Library loan	.		\$9,200 00	
Accrued interest on same	.		77 82	
				9,277 82
Temporary loans	.	.	\$100,000 00	
Accrued interest on same	.		133 33	
				100,133 33
Uninvested portion of principal of Kenrick fund	.	.	\$2,750 00	
Accrued interest on same	.		115 00	
				2,865 00
Suspense account, amount in treasury subject to call by sundry parties	.	.	.	738 05
Read fund income	.	.	.	626 19
Premium on tax sale	.	.	.	109 00
Special deposit made by Newton Centre play ground committee for purchase of land for play ground	.	.	.	6,000 00
Mayor's warrants unpaid, appropriations, etc.,				33,524 19
				\$414,211 65
Cash on hand	.	.	\$68,130 24	
Sinking fund	.	.	306 31	
Public park sinking fund	.		15,250 15	
School loan sinking fund	.		18,480 74	
Balance taxes uncollected	.		107,950 22	
Other assets uncollected	.		8,602 98	
				218,720 64
Net city liability	.	,	,	\$195,491 01

RECEIPTS.

The receipts for the year ending Dec. 31, 1889, are shown in the aggregates, as credited in the following accounts:—

Number of Account.	
1.	Almshouse \$1,784 17
2.	Armory 400 00
3.	Board of Health 102 66
4.	City Engineers department 189 96
5.	City Hall 1,069 50
6.	Collector's fees 380 49
7.	Corporation tax 59,216 53
8.	Curbing 1,199 01
9.	Dog tax 2,708 52
10.	Druggists' license fees 21 00
11.	Drains and culverts 350 00
12.	Fire department 1 50
13.	Funded debt, 4 per cent. water bonds 52,000 00
14.	Highways, general repairs 2,555 82
15.	Interest on deposits 772 24
16.	Interest on taxes 2,892 49
17.	Interest on water bonds 244 45
18.	Indigent soldiers and sailors 455 00
19.	Kenrick Fund income 127 50
20.	Milk licenses 65 00
21.	Miscellaneous 157 63
22.	National bank tax 13,480 35
23.	Newton Centre play ground committee 6,000 00
24.	Newton Free Library, catalogue account 14 00
25.	Police department 998 98
26.	Poor out of almshouse 1,761 58
27.	Public property 276 93
<i>Amount carried forward,</i>	<i>\$149,225 31</i>

<i>Amount brought forward,</i>		\$149,225 31
28.	Premium on water bonds	4,964 00
29.	Record and other fees	353 75
30.	Read fund income	1,614 22
31.	Sinking fund commissioners	23,000 00
32.	School incidentals	84
33.	Ships engaged in foreign trade	821 83
34.	State aid	974 00
35.	Taxes 1883	20 00
36.	Taxes 1884	4 80
37.	Taxes 1885	146 53
38.	Taxes 1886	164 67
39.	Taxes 1887	2,859 18
40.	Taxes 1888	91,902 85
41.	Taxes 1889	433,910 88
42.	Tuition for non-resident pupils	473 50
43.	Temporary loans	460,000 00
44.	Washington street bridge	174 77
45.	Water meters, rents	3,193 05
46.	Water maintenance, meters and service pipe	5,907 70
47.	Water rates	19,429 81
48.	Water rate by meters	47,145 21
49.	Water construction	7 60
50.	Watering streets	612 04
Total receipts		\$1,246,906 54

EXPENSES.

The claims of the year ending December 31, 1889, as approved and drawn for in the auditor's office, are shown in the aggregates as charged to the following accounts:—

Number of
Account.

1.	Almshouse expenses and repairs	\$4,147 71
2.	Armory expenses	1,066 69
3.	Bemis Bridge	6,979 77
4.	Books, stationery and printing	3,910 03
5.	Board of Health	6,848 16
6.	Burial lot (Soldiers and Sailors)	3,500 00
7.	Burial grounds	388 06
8.	Claffin school building	4,666 52
9.	City Engineer's Department	7,986 35
10.	City Hall expenses	2,092 66
11.	Elections and registration of voters	4,905 98
12.	Fire Department	28,778 85
13.	Funded debt, town note	23,000 00
14.	Funded debt, schoolhouse note	5,150 00
15.	Funded debt, High school building	4,500 00
16.	Funded debt, Newton Free Library building	4,600 00
17.	Highways, curbing	1,979 91
18.	Highways, drains and culverts	12,706 26
19.	Highways, general repairs	72,080 05
20.	Highways, gravel land	789 55
21.	Highways, land damages	50 00
22.	Highways, removal of ashes	3,702 86
23.	Highways, sidewalks and street crossings	14,245 90
24.	Highways, widening, reconstruction and improvements	15,323 90
<i>Amount carried forward,</i>		<u>\$233,299 21</u>

<i>Amount brought forward,</i>		\$233,399 21
25.	Interest on city loans, permanent	13,616 00
26.	Interest on city loans, temporary	5,866 34
27.	Interest on water bonds	61,340 00
28.	Indigent soldiers and sailors	985 00
29.	Kenrick Fund income*	167 50
30.	Memorial Day	500 00
31.	Miscellaneous expenses	11,097 53
32.	Newton Free Library	10,294 89
33.	Newton Cottage Hospital	1,500 00
34.	Parks and squares	1,659 74
35.	Police Department	26,663 44
36.	Poor out of almshouse	8,371 73
37.	Public property	18,537 46
38.	Read Fund income	1,686 96
39.	Salaries	18,140 00
40.	Schools, evening	659 75
41.	Schools, general appropriation	107,529 34
42.	Schools, incidentals	10,527 29
43.	Sanitary improvement of City Hall	2,300 00
44.	Sewerage	117 84
45.	Sinking fund, city debt	23,000 00
46.	Sinking fund, school loan	4,000 00
47.	Sinking fund, water bonds	22,000 00
48.	State aid	1,126 00
49.	Street light department	22,134 43
50.	Taxes 1889, county	26,406 19
51.	Taxes 1889, National Bank	1,544 52
52.	Taxes 1889, state	34,060 00
53.	Temporary loans	469,700 00
54.	Water construction	49,704 33
<i>Amount carried forward</i>		\$1,188,635 49

<i>Amount brought forward</i>	\$1,188,635 49
55. Water maintenance	15,420 78
56. Water meters and service pipe	3,532 00
57. Water rebate on bills	408 01
58. Watering streets and water for same	6,204 84
59. Watering troughs and drinking posts	1,078 23
60. Water, use of hydrants	11,320 00
61. Washington street bridge, Lower Falls	3,897 06
Total Expenses,	\$1,230,496 41

Table showing Appropriations, Transfers, Mayor's Warrants, Treasurer's Payments, Differences, Excess and Deficiency Accounts.

OBJECT OF APPROPRIATION.	Appropriations for 1889.	Transfers.	Total Appropriations.	Mayor's Warrants.	Treasurer's Payments.	Differences.	EXCESS AND DEFICIENCY ACCOUNT.	
							Over-drawn.	Unexpended.
Almshouse expenses and repairs	\$4,000 00	\$200 00	\$4,200 00	\$4,147 71	\$4,111 40	\$36 31	-	\$32 29
Armory expenses	1,000 00	200 00	1,200 00	1,066 69	1,222 79	-156 10	-	133 31
Books, stationery and printing	4,500 00	-	4,500 00	3,910 03	3,940 48	-39 45	-	589 97
Board of Health	\$4,000 00	-	6,750 00	6,848 16	6,792 69	55 47	\$98 16	-
Additional by order of City Council	2,750 00	-	400 00	388 06	719 18	-331 12	-	11 94
Burial grounds	8,000 00	-	8,000 00	7,986 35	8,101 59	-115 24	-	13 65
City Engineer's department	2,000 00	-	2,000 00	2,062 66	2,106 43	-13 77	92 66	-
City Hall expenses	1,900 00	3,000 00	4,900 00	4,905 98	4,799 02	106 96	5 98	-
Elections and registration of voters	28,100 00	238 50	28,338 50	28,778 85	28,933 32	-154 47	440 35	-
Fire department	2,000 00	-	2,000 00	1,979 91	1,888 29	91 62	-	20 00
Highways, curbing	12,350 00	500 00	12,850 00	12,706 26	12,919 93	-213 67	-	143 74
Highways, drains and culverts	\$11,500 00	-	72,111 00	72,080 05	73,480 55	-1,400 50	-	30 95
Additional by order of City Council	850 00	-	1,000 00	789 55	2,445 10	-1,655 55	-	210 45
Highways, general repairs	\$80,000 00	450 00	50 00	50 00	550 00	-500 00	-	-
Additional by order of City Council	11,611 00	1,000 00	4,000 00	3,707 74	3,702 86	4 88	-	292 26
Highways, gravel land	5,000 00	1,000 00	14,450 00	15,323 90	15,553 79	-1,767 89	-	204 10
Highways, land damages	15,500 00	450 00	15,500 00	15,323 90	15,200 90	123 00	-	176 10
Highways, removal of ashes	1,000 00	-	1,000 00	985 00	1,013 00	-28 00	-	15 00
Highways, sidewalks and street crossings	14,000 00	-	14,000 00	13,616 00	13,616 00	-	-	384 00
Highways, widening, reconstruction and improvements, ...	10,000 00	3,500 00	6,500 00	5,866 34	5,866 34	-	-	633 66
Indigent soldiers and sailors	61,500 00	-	61,500 00	61,340 00	61,340 00	-	-	169 00
Interest on city loans, permanent	500 00	-	500 00	500 00	500 00	-	-	-
Interest on city loans, temporary	-	-	-	-	-	-	-	-
Interest on water bonds	-	-	-	-	-	-	-	-
Memorial day	-	-	-	-	-	-	-	-

Miscellaneous expenses	7,157 63	1,861 50	9,019 13	11,097 53	10,280 69	816 84	2,078 40	-
Additional from City Treasury per order of City Council	157 63	-	-	-	-	-	-	11
Newton Free Library	10,235 00	-	10,235 00	10,294 89	10,350 76	-55 87	-	-
Newton Free Library, note	4,600 00	-	4,600 00	4,6 0 00	4,600 00	-	-	-
Newton Cottage Hospital	1,500 00	-	1,500 00	1,500 00	1,500 00	-	-	-
Parks and squares	2,000 00	-	2,000 00	1,659 74	1,659 48	-266 74	-	340 26
Police department	33,135 00	-	33,135 00	26,063 44	25,984 14	679 30	-	6,631 56
Poor out of almshouse	8,800 00	200 00	8,600 00	8,371 73	8,320 43	51 30	-	228 27
Public property	17,950 00	-	17,950 00	18,537 46	13,949 15	4,588 31	587 46	-
Additional by order of City Council	7,950 00	-	-	-	-	-	-	-
Salaries	18,099 00	-	18,099 00	18,140 00	19,654 08	-1,514 08	41 00	-
Schools, evening	1,000 00	-	1,090 00	659 75	659 75	-	-	340 25
Schools, general appropriation	8106,215 00	-	-	-	-	-	-	694 18
Schools, general appropriation	2,708 52	700 00	108,223 52	107,529 34	107,529 34	-	-	172 71
Dog tax, 1889, by order of City Council	10,000 00	700 00	10,700 00	10,527 29	10,382 73	144 56	-	-
Schools, incidentals	4,500 00	-	4,500 00	4,500 00	4,500 00	-	-	-
School note (addition to High school building)	5,150 00	-	5,150 00	5,150 00	5,150 00	-	-	-
School-house note (Williams and Eliot)	23,000 00	-	23,000 00	23,000 00	23,000 00	-	-	-
Sinking fund, city debt	4,000 00	-	4,000 00	4,000 00	4,000 00	-	-	-
Sinking fund, school loan	22,000 00	-	22,000 00	22,000 00	22,000 00	-	-	-
Sinking fund, water bond	1,000 00	200 00	1,200 00	1,129 50	1,129 50	3 50	-	70 50
State aid	27,000 00	2,000 00	25,000 00	22,134 43	22,043 10	91 33	-	2,805 57
Street light department	11,320 00	-	11,320 00	11,320 00	11,320 00	-	-	-
Use of hydrants	14,800 00	-	14,800 00	15,420 78	15,627 63	-206 85	620 78	-
Water maintenance	3,500 00	-	3,500 00	3,532 00	3,521 68	10 32	32 00	-
Water meters and service pipe	500 00	-	500 00	408 01	414 51	-6 50	-	91 99
Water, rebate on bills	6,500 00	-	6,550 00	6,204 84	6,104 84	100 00	-	345 16
Watering streets and water for same	1,200 00	-	1,200 00	1,078 23	1, 78 23	-	-	121 77
Watering troughs and drinking posts	10,000 00	-	10,000 00	10,000 00	-	10,300 00	-	-
Additional appropriation on account of Newton Centre	1,000 00	-	1,000 00	1,000 00	-	1,000 00	-	-
play ground, by order of City Council	8624,651 16	-	8613,774 10	8604,227 20	8604,227 20	817,903 70	83,996 79	814,873 84
Additional appropriation on account of Bemis bridge, by order of City Council	157 63	-	-	-	-	-	-	-
Amounts carried forward	8024,651 15	-	8624,651 16	8613,774 10	8604,227 20	817,903 70	83,996 79	814,873 84

Table showing Appropriations, Transfers, etc.—Concluded.

OBJECT OF APPROPRIATION.	Appropriations for 1889.	Transfers.	Total Appropriations.	Mayor's Warrants.	Treasurer's Payments.	Differences.	EXCESS AND DEFICIENCY ACCOUNT.	
							Overdrawn.	Unexpended.
<i>Amounts brought forward</i>	\$624,651 15	-	\$624,651 15	\$613,774 10	\$604,227 20	\$17,963 70 8,356 80	\$3,956 79	\$14,875 84 3,696 79
Less Mayor's warrants of 1888, paid by treasurer in 1889,								
Amount of Mayor's warrants for 1889, paid by treasurer in 1890 appropriations	-	-	-	-	23,977 29 \$580,249 91 33,524 19	-	-	-
Transferred into treasury	\$624,651 15	-	\$624,651 15	\$613,774 10	\$613,774 10	\$9,546 90	-	\$10,877 05

PERMANENT DEBT.—Descriptive List.

	Rate.	Date of Loan, Etc.	Payable.	Amount.	Interest when Payable.
Commonwealth of Massachusetts	.	.	.	.	.
"	6 per cent.	April 22, 1870,	April 22, 1890,	\$20,000 00	April and October.
"	6 per cent.	April 22, 1870,	April 22, 1892,	30,000 00	April and October.
"	6 per cent.	March 10, 1875,	March 10, 1894,	47,000 00	March and September.
Municipal Bonds, \$1,000 each	5 per cent.	July 1, 1875,	July 1, 1895,	34,000 00	January and July.
"	6 per cent.	July 1, 1875,	July 1, 1905,	600,000 00	January and July.
"	5 per cent.	July 1, 1875,	July 1, 1896,	250,000 00	January and July.
"	4 per cent.	Oct. 1, 1880,	Oct. 1, 1910,	100,000 00	April and October.
"	4 per cent.	Oct. 1, 1884,	Oct. 1, 1914,	100,000 00	April and October.
"	4 per cent.	Oct. 1, 1887,	Oct. 1, 1917,	100,000 00	April and October.
"	4 per cent.	Oct. 1, 1888,	Oct. 1, 1918,	67,000 00	April and October.
"	4 per cent.	June 1, 1883,	April 1, 1908,	25,000 00	April and October.
Public Park Bonds, \$1,000 each	4 per cent.	Jan. 25, 1884,	One each year.	25,750 00	January and July.
School-house Notes, \$5,150 each	4 per cent.	April 1, 1885,	April 1, 1895,	44,000 00	April and October.
School Loan Bonds, \$1,000 each	3½ per cent.	Oct. 6, 1886,	One each year.	31,500 00	April and October.
School Notes, \$4,500 each	3½ per cent.	Oct. 4, 1887,	One each year.	9,500 00	March and September.
Newton Free Library Loan, \$4,600 each	.	.	.	\$1,483,450 00	.

STATEMENT OF THE KENRICK FUND.

The following is a statement of this fund and its income,
Jan. 1, 1890 —

Amount invested	\$1,250 00
Cash uninvested	2,750 00
Total fund	\$4,000 00
Balance income on hand Jan.	
1, 1889	\$155 00
Income received 1889	127 50
	\$282 50
Amount distributed	167 50
Balance	\$115 00

The distribution of the income of this fund has been made
in accordance with the terms of the donor, to persons entitled
to its benefits.

TAXES AND TAXABLE VALUATION.

The following will show the valuation of the property of
the city on which taxes were assessed for the year 1889, with
the amount of taxes and rate of taxation:—

Value of real estate	\$25,390,300 00
Value of personal estate	9,264,372 00
	\$34,654,672 00
Tax received for corporation stocks	\$59,216 53
Tax received for bank stocks	13,480 35
	\$72,696 88
City appropriations for current expenses, ...	\$624,124 00
Deduct estimated receipts for 1889	134,100 00
	\$490,024 00

Cr

City of Newton	\$720,787 12
Funded debt, 3 1-2 per cent. library notes	9,200 00
Funded debt, 3 1-2 per cent. high school notes	31,500 00
Funded debt, 4 per cent. school notes	25,750 00
Funded debt, 6 per cent. city notes	97,000 00
Funded debt, 4 per cent. school bonds	44,000 00
Funded debt, 4 per cent. park bonds	25,000 00
Funded debt, 5 per cent. municipal bonds	34,000 00
Funded debt, 4 per cent. water scrip	367,000 00
Funded debt, 5 per cent. water scrip	250,000 00
Funded debt, 6 per cent. water scrip	600,000 00
Kenrick Fund	4,115 00
Mayor's warrants, unpaid bills	33,524 19
Newton Centre play ground committee	6,000 00
Overlay 1884	432 66
Overlay 1885	3,336 44
Overlay 1886	2,676 21
Overlay 1887	2,306 51
Overlay 1888	2,237 63
Overlay 1889	3,362 20
Premium on tax sale	109 00
Read Fund income	626 19
Suspense account	738 05
Temporary loans	100,000 00
Claffin school enlargement	28,833 48
	\$2,392,534 68

REPORT OF THE SINKING FUND COMMISSIONERS.

The Sinking Fund Commissioners of the City of Newton beg leave to report to the City Council their doings for 1889, as follows :—

Water Debt Sinking Fund.

On hand in cash and securities at par, Jan. 1, 1889	\$254,317 07
Received interest on securities, loans and bank deposits	11,013 33
Received appropriation by the city for 1889	22,000 00
	\$287,330 40

Invested as follows :—

City of Newton 5 per cent. water bonds, due July 1, 1906	\$73,000 00
City of Newton 4 per cent. water bonds, due Oct. 1, 1910	75,000 00
City of Newton 4 per cent. water bonds, due April 1, 1914	65,000 00
City of Newton 4 per cent. water bonds, due Oct. 1, 1917	17,000 00
City of Newton 4 per cent. water bonds, due Oct. 1, 1918	22,000 00
City of Newton 4 per cent. school note, due Jan. 25, 1894	5,150 00
<i>Amount carried forward,</i>	\$257,150 00

<i>Amount brought forward,</i>	\$257,150 00	
Cash on deposit, National Revere Bank . . .	\$22,052 44	
Cash on deposit Everett National Bank . . .	8,127 96	30,180 40
		\$287,330 40

City Debt Sinking Fund.

On hand in cash Jan. 1, 1889	\$299 25	
Received interest on bank balance	7 06	
Received appropriation by the City for 1889	23,000 00	
	\$23,306 31	
Less paid City Treasurer to retire note due April 21, 1889	\$23,000 00	
	\$306 31	
Deposited in Everett National Bank	\$306 31	

Public Park Sinking Fund.

On hand in cash and securities at par, Jan. 1, 1889.	\$14,690 15	
Received interest on securities and bank de- posits	560 00	
	\$15,250 15	

Invested as follows : —

City of Newton 4 per cent. water bonds, due April 1, 1914	\$12,000 00
City of Newton 4 per cent. water bonds, due April 1, 1917	2,000 00
Deposit in National Revere Bank	1,250 15
	\$15,250 15

School Loan Sinking Fund.

On hand in cash and securities Jan. 1, 1889	\$13,974 28
Received interest on securities and bank de- posits	506 46
Received appropriation by the city for 1889	4,000 00
	\$18,480 74

Invested as follows : —

City of Newton 4 per cent. water bonds, due April 1, 1914	\$4,000 00
City of Newton 4 per cent. water bonds, due Oct. 1917	5,000 00
City of Newton 4 per cent. water bonds, due Oct. 1, 1918	5,000 00
Cash on deposit in National Re- vere Bank	4,480 74

\$18,480 74

In April last we paid the City Treasurer \$23,000.00 from the City Debt Sinking Fund, to enable him to pay a note of same amount due April 21, 1889.

We have bought of the city at par, \$7,000 4 per cent. water bond, due 1918, for the Water Debt Sinking Fund and \$5,000 due same time for the School Loan Sinking Fund.

We also reported to the City Council in October 1889, that there should be appropriated for the year 1890, as follows:—

For the water debt sinking fund	. . .	\$22,000 00
For the city debt sinking fund	. . .	22,000 00
For the school loan sinking fund	. . .	4,000 00

Respectfully submitted,

GEO. S. BULLENS,
ALDEN SPEARE,
GEORGE C. LORD,
Sinking Fund Commissioners.

NEWTON, Jan. 1, 1890.

REPORT OF THE TRUSTEES OF THE READ FUND.

In accordance with Ordinance XLIV., Section 3, we beg leave to report to the City Council as follows:—

Amount of interest collected for 1889 . . .	\$1,588 00
Less paid to the City of Newton . . .	1,588 00

The City Council having appropriated and paid over to your Trustees \$300.00 amount of the fund is now \$40,000.00 and is invested as follows:—

Note of the City of Newton dated Nov. 30, 1889 on 12 months with interest semi-annually at 4 per cent. per annum.

GEO. S. BULLENS,
ALDEN SPEARE,
GEORGE C. LORD,
Trustees of the Read Fund.

NEWTON, Jan. 1, 1890.

STATEMENT IN DETAIL OF RECEIPTS.

Almshouse.

Received from N. D. Moody, warden, for the sale of hay, straw, produce, wood, etc.,	\$1,317 17
Received for board of Charles T. Sawyer and wife . . .	225 00
Received for board of J. T. Moody	30 00
Received for board of Elizabeth Griffeth	112 00
Received for sale of gravel . . .	100 00

Total as per item No. 1 of receipts \$1784 17

Armory.

Received from Commonwealth of Massachusetts for rent of armory, as per item No. 2 of receipts	\$400 00
---	----------

Board of Health.

Received from sundry persons on account of material and labor, as per No. 3 of receipts	\$102 66
---	----------

City Engineer's Department.

Received from Town of Watertown for service of Engineer and assistants on account of construction of Morse Field drain, as per item No. 4 of receipts	\$189 96
---	----------

City Hall.

Received for use of hall, etc.	\$569 50
Received from treasurer of county of Middlesex for rent of police court room	500 00

Total, as per item No. 5 of receipts	\$1,069 50
--------------------------------------	------------

Collector's Fees.

Received from John A. Kenrick, treasurer and collector of taxes, for summonses, advertising tax sales, etc., as per item No. 6 of receipts	\$380 49
--	----------

Corporation Tax.

Received from Commonwealth of Massachusetts, as per item No. 7 of receipts	\$59,216 53
--	-------------

Curbing.

Received from sundry persons an account of curbing, as per item No. 8 of receipts	\$1,199 01
---	------------

Dog Tax.

Received from treasurer of county of Middlesex for dog tax, as per item No. 9 of receipts	\$2,708 52
---	------------

Druggists' License Fees.

Received from sundry persons for liquor licenses of the sixth class, as per item No. 10 of receipts.	\$21 00
--	---------

Drains and Culverts.

Received from George B. Nichols on account of drain in Middlesex road, as per item No. 11 of receipts	\$350 00
---	----------

Fire Department.

Received from Alden Speare's Sons & Co., refund of bill, as per item No. 12 of receipts	\$1 50
---	--------

Funded Debt Water-Bonds.

April 1. Received from commissioners of the sinking funds of the City of Newton for seven City of Newton water bonds, 4 per cent., \$1,000 each, on account of water debt sinking fund	\$7,000 00
--	------------

<i>Amount carried forward</i>	<u>\$7,000 00</u>
-------------------------------	-------------------

<i>Amount brought forward</i>	\$7,000 00
April 1. Received from commissioners of the sinking funds of City of Newton for five City of Newton water bonds, 4 per cent., \$1,000 each, on account of school loan sinking fund	5,000 00
Nov. 26. Received from Blake Brothers & Co., for forty City of Newton water bonds, 4 per cent., \$1,000 each, on account of water con- struction	40,000 00
Total, as per item No. 13 of receipts, .	\$52,000 00

Highways, General Repairs.

Received from almshouse department for ma- nure from city stables	\$276 00
Received from T. M. Clark, for stone . . .	100 00
Received from sundry persons for crushed stone	1,945 87
Received for use of road roller	25 50
Received from S. R. Urbino for material and labor on drinking fountain, Lincoln Park	80 78
Received from Albert Brackett & Son, refund of bills	34 63
Received from sale of old material . . .	61 51
Received from sale of gravel	17 00
Received from town of Wellesley portion of freight on stone B. & A. R. R. Co. ,	14 53
Total as per item No. 14 of receipts	\$2,555 82

Interest on Deposits.

Received from Newton National Bank and First National Bank of West Newton, on daily balances, as per item No. 15 of re- ceipts	\$772 24
---	----------

Interest on Taxes.

Received from sundry persons, interest on taxes, as per item No. 16 of receipts .	\$2,892 49
--	------------

Interest on Water Bonds.

Received from Blake Brothers & Co., accrued interest on \$40,000 4 per cent. water bonds, as per item No. 17 of receipts .	\$244 45
--	----------

Indigent Soldiers and Sailors.

Received from Commonwealth of Massachu- setts, on account of aid to sundry persons, under Chapter 252, Acts of 1879, and Chapter 279, Acts of 1889, as per item No. 18 of receipts	\$455 00
--	----------

Kenrick Fund Income.

Balance uninvested Jan. 1, 1889 in city treasury	\$3,250 00
Balance of income on hand Jan. 1, 1889	155 00
	\$3,405 00
Income from investments in 1889, as per item No. 19 of receipts	127 50
	\$3,532 50

Loaned and Expended.

Amount loaned Robert S. Har-		
rison	\$500 00	
Distributed per order Board of		
Aldermen, as per item No.		
29 of expenses	\$167 50	
Balance income on hand	115 00	
		782 50
Balance uninvested Jan. 1, 1889		\$2,750 00

Milk Licenses.

Received from agent of Board of Health		
for milk licenses, as per item No. 20 of		
receipts		\$65 00

Miscellaneous.

Received from Union Institution for Savings,		
Boston, for tax of 1887 upon an estate		
in Ward 4, taxed in error, tax refunded		
and reassessed the present year, as per		
item No. 21 of receipts		\$157 63

National Bank Tax.

Received from Commonwealth of Massachu-		
setts, National Bank tax, as per item No.		
22 of receipts		\$13,480 35

Newton Centre Play Ground.

Received from Committee of Citizens, Newton		
Centre, on account of payment of land for		
playground, as per item No. 23 of		
receipts.		\$6,000 00

Newton Free Library—Catalogue Account.

Received from librarian for sale of catalogues, as per item No. 24 of receipts	14 00
---	-------

Police Department.

Received from Edward W. Cate, clerk of police court, fees, fees for witnesses, fines, and costs, as per item No. 25 of receipts . .	998 98
---	--------

Poor out of Almshouse.

Received from Commonwealth of Massachusetts for partial support, etc., of sundry persons	679 09
Received for partial support of J. C. Gipson .	169 94
Received for partial support of J. Carroll .	15 71
Received from City of Boston for partial support of sundry persons	248 05
Received from City of Waltham for partial support of sundry persons	231 98
Received from City of Somerville for partial support of sundry persons	30 89
Received from City of Chelsea for partial support of sundry persons	94 60
Received from City of Lawrence for partial support of sundry persons	1 05
Received from Town of Plymouth for partial support of sundry persons	48 17
Received from Town of Needham for partial support of sundry persons	41 63
Received from Town of Arlington for partial support of sundry persons	51 00

<i>Amount carried forward</i>	\$1,612 11
-------------------------------	------------------

<i>Amount brought forward</i>	\$1,612 11
Received from Town of Blackstone for partial support of sundry persons	25 00
Received from Town of Sevoy for partial support of sundry persons	22 37
Received from Town of Pittsfield for partial support of sundry persons	21 29
Received from Town of Wellesley, for partial support of sundry persons	21 00
Received from Town of Clinton for partial support of sundry persons	7 00
Received from Town of Watertown for partial support of sundry persons	1 90
Received from Town of Concord for partial support of sundry persons	40 91
Received from appropriation for indigent soldiers and sailors	10 00
Total as per item No. 26 of receipts .	\$1761 58

Public Property.

Received for rent of Prospect schoolhouse hall	\$127 00
Received from Auburndale Village Improvement Society for rent of old Williams schoolhouse	50 00
Received from E. M. Fowle, treasurer, for use of Crystal pond	25 00
Received for rent of Oak Hill schoolhouse .	14 00
Received from C. A. Purdy, out buildings Clafin school house	35 00
Received from J. J. Farrell for old fence, Clafin school house	15 00
Received from Simpson Brothers, error in bill	8 43
Received from J. D. Wellington for old carpet	2 50
Total as per item No. 27 of receipts .	\$276 93

Premium on Water Bonds.

Received from Blake Brothers & Co., 112 41-100 per cent. on \$40,000 City of Newton Water bonds, as per item No. 28 of receipts	\$4,964 00
--	------------

Records and Other Fees.

Received from City Clerk for recording mort- gages, marriage certificates, assignments, etc., as per item No. 29 of receipts . . .	\$353 75
--	----------

Read Fund Income.

Received from the trustees of the Read Fund, interest on investments, as per item No. 30 of receipts	\$1,614 22
--	------------

Sinking Fund Commissioners.

Received from the commissioners of the sink- ing funds of the City of Newton for the payment of note of the town of Newton, as per item No. 31 of receipts . . .	\$23,000 00
---	-------------

School Incidentals.

Received from H. M. Burr & Co., on account of error in bill, as per item No. 32 of re- ceipts	84
---	----

Ships Engaged in Foreign Trade,

Received from Commonwealth of Massachu- setts on account of ships engaged in foreign trade, as per item No. 33 of re- ceipts	\$821 83
---	----------

State Aid.

Received from Commonwealth of Massachusetts, on account of sundry persons, under chapter 301, Acts of 1879, and of 1889, as per item No. 34 of receipts	\$974 00
---	----------

Taxes of 1883 and Previous Years.

Balance uncollected Dec. 31, 1888	\$2,033 09
Received from sundry persons since Dec. 31, 1888, as per item No. 35 of receipts	20 00
Balance uncollected Dec. 31, 1889	\$2,013 09

Taxes 1884.

Balance uncollected Dec. 31, 1888	\$1,532 58
Received from sundry persons since Dec. 31, 1888, as per item No. 36 of receipts	4 80
Balance uncollected Dec. 31, 1889	\$1,527 78

Taxes 1885.

Balance uncollected Dec. 31, 1888	\$1,602 79
Received from sundry persons since Dec. 31, 1888, as per item No. 37 of receipts	146 53
Balance uncollected Dec. 31, 1889	\$1,456 26

Taxes 1886.

Balance uncollected Dec. 31, 1888	\$2,914 19
Received from sundry persons since Dec. 31, 1888, as per item No. 38 of receipts	164 67
Balance uncollected Dec. 31, 1889	\$2,749 52

Taxes 1887.

Balance uncollected Dec. 31, 1888	\$4,909 91
Received from sundry persons, since Dec. 31, 1888 as per item No. 39 of receipts	2,859 18
Balance uncollected Dec. 31, 1889	\$2,050 73

Taxes 1888.

Balance uncollected Dec. 31, 1888	\$97,011 95
Received from sundry persons, since Dec. 31, 1888, as per item No. 40 of receipts	91,902 85
Balance uncollected Dec. 31, 1889	\$5,109 10

Taxes 1889.

Amount assessed for state tax	\$34,060 00
Amount assessed for county tax	26,406 19
Amount assessed for city tax	457,524 00
Supplementary assessment	92 82
Tax on non-resident bank shares	1,563 65
Overlay	7,307 96
	\$526,954 62
Received from sundry persons to Dec. 31, 1889, as per item No. 41 of receipts	433,910 88
Balance uncollected Dec. 31, 1889	\$93,043 74

Tuition for Non Resident Pupils.

Received from sundry non-residents for tuition, as per item No. 42 of receipts	\$473 50
---	----------

Temporary Loans.

Borrowed during the year, by authority of the
City Council (in anticipation of taxes),
for the payment of current expenses:—

Feb. 6.	Potter Lovell Co. at 2 3-4 per cent. per annum	\$25,000 00
Feb. 7.	Potter Lovell Co. at 2 3-4 per cent. per annum	50,000 00
April 18.	Potter Lovell Co. at 2 1-2 per cent. per annum	40,000 00
May 25.	Potter Lovell Co. at 2 1-2 per cent. per annum	50,000 00
June 18.	Potter Lovell Co. at 2 1-2 per cent. per annum	115,000 00
Aug. 5.	Potter Lovell Co. at 3 per cent. per annum	20,000 00
Aug. 6.	Potter Lovell Co. at 3 per cent. per annum	10,000 00
Sept. 6.	Potter Lovell Co. at 3 1-2 per cent. per annum	20,000 00
Sept. 27.	Potter Lovell Co. at 3 per cent. per annum	30,000 00
Nov. 30.	Trustees of the Read Fund at 4 per cent. per annum	40,000 00
Dec. 12.	Potter Lovell Co. at 3 3-4 per cent. per annum	40,000 00
Dec. 14.	Potter Lovell Co. at 3 3-4 per cent. per annum	20,000 00
Total as per item No. 43 of receipts		\$460,000 00

Washington Street Bridge, Lower Falls.

Received from town of Wellesley in part for construction of bridge, as per item No. 44 of receipts	\$174 77
--	----------

Water Meters, Rents.

Received from sundry persons for rent of meters, as per item No. 45 of receipts .	\$3,193 05
--	------------

Water Meters and Service Pipe.

Received from sundry persons for service pipe, labor, etc., as per item No. 46 of receipts,	\$5,907 70
--	------------

Water Rates.

Received from sundry persons for use of water in 1889, by schedule rates, as per item No. 47 of receipts	\$19,429 81
--	-------------

Water Rates by Meters.

Received from sundry persons for use of water in 1889, by meters, as per item No. 48 of receipts	\$47,145 21
--	-------------

Watering Streets.

Received from sundry persons, contributors to- ward expense of watering streets, as per item No. 50 of receipts	\$612 04
---	----------

STATEMENT IN DETAIL OF EXPENSES WITH APPROPRIATIONS, TRANSFERS, AND BALANCES.

Almshouse Expenses and Repairs.

Appropriation . . .	\$4,000 00	
Transferred from appropriation for poor out of almshouse,	200 00	
		\$4,200 00
N. D. Moody, services as warden,	\$700 00	
N. D. Moody, sundry cash payments	200 36	
Eliza A. Moody, services as matron	100 00	
John T. Moody, services at almshouse	180 00	
Emma L. Moody, services at almshouse	144 00	
Nathan Freeman, services at almshouse	47 70	
W. H. Fowles, services at almshouse	25 80	
Dr. James Utley, medical attendance	59 00	
Dr. Fred E. Crockett, medical attendance	10 00	
Dr. George J. Taylor, medical attendance	2 00	
Frank W. Freeman, medicine,	16 89	
George H. Ingraham, medicine,	5 25	
James McGourty, funeral services	10 00	
Newton Cemetery, interment .	5 00	
<i>Amounts carried forward</i>	\$1,506 00	\$4,200 00

<i>Amounts brought forward</i>	\$1,506 00	\$4,200 00
Highway department, manure from city stables . . .	276 00	
Crocker & Eldredge, groceries,	538 20	
H. A. Sherman, groceries . .	133 38	
J. H. Hoyt, groceries . . .	7 50	
J. W. Mitchell, coal . . .	243 53	
Water department, use of wa- ter	68 17	
Armour & Co., beef . . .	129 64	
V. A. Pluta, provisions . . .	92 92	
A. D. Hall, provisions . . .	67 51	
L. F. Mason, provisions . . .	23 27	
Swift & Co., provisions . . .	4 96	
W. H. Mague, house offal . .	27 50	
J. F. C. Hyde, wood . . .	164 00	
James McIntosh, wood . . .	122 50	
Frank Linnell, fish and oysters	71 80	
George H. Ellis, ice . . .	61 42	
M. E. Society, for rent of pew .	45 00	
Luther E. Leland, rent of barn	20 00	
Albert Howe & Co., sled . . .	26 00	
Parker & Wood, sulky plow . .	68 90	
Norcross, Mellen & Company, crockery	13 36	
H. W. Crowell, grain . . .	52 25	
E. E. Moody, supplies . . .	236 16	
Schlegel & Fottler, supplies . .	10 76	
Ames Plow Co., supplies . . .	3 36	
Francis Murdock & Co., sup- plies	1 50	
<i>Amounts carried forward</i>	\$4,015 59	\$4,200 00

<i>Amounts brought forward</i>	\$4,015 59	\$4,200 00
O. Morse & Son, grinding corn	3 90	
J. C. Farrar, blacksmithing .	27 94	
McCarthy & Nugent, blacksmithing	17 76	
J. A. Nugent, blacksmithing .	9 45	
J. R. McLaughlin, care sick horse	2 00	
O. F. Lucas, material and labor	32 14	
E. W. Hodgson, material and labor	31 50	
H. H. Hunt, lumber . . .	3 24	
J. D. Henthorn, sundry cash expenses	1 19	
Stephen F. Cate, use of team	1 00	
Newton Journal, advertising .	2 00	
Total, as per item No. 1 of expenses		\$4,147 71
Balance unexpended, transferred into excess and deficiency account		\$52 29

Armory Expenses.

Appropriation		\$1,000 00
Transferred from appropriation for interest on city loans temporary	200 00	
		\$1,200 00
B. S. Wetherbee, service as janitor, etc.	\$350 00	
Newton & Watertown Gas Light Co., gas	305 00	
<i>Amounts carried forward</i>	\$655 00	\$1,200 00

<i>Amounts brought forward,</i>	\$655 00	\$1,200 00
Higgins & Nickerson, material and labor	200 00	
Albert Brackett & Son, coal, etc.	129 14	
C. S. Pulsifer, rent of land for rifle range	50 00	
Water department, use of water	17 35	
Edward Pike, material and labor	5 95	
John Joyce, material and labor	3 00	
Charles A. Hill, material and labor	2 25	
F. E. Hamblin, material and labor	4 00	
Total, as per item No. 2 of expenses		\$1,066 69
Balance unexpended, transferred into excess and deficiency account		\$133 31

Bemis Bridge.

Dudley H. Bradlee, assignee, payment on contract . .	\$6,147 29
Fred H. Barnes, services as assistant engineer . . .	425 82
W. H. Leatherbee & Son, lumber	210 01
Newton & Watertown Gas Light Co., gas	45 11
John A. Kenrick, treasurer, labor, men and teams . .	49 19
Timothy Stuart, labor, men and teams	15 74
<i>Amount carried forward</i>	\$6,893 16

<i>Amounts brought forward</i>	\$6,893 16
A. O. Doane, services as assistant engineer	5 00
Stephen F. Cate, use of team	3 00
Adam Beck, material and labor	66 05
J. O. Evans' Sons, material and labor	2 50
Bailey & Hargedon, material and labor	1 79
Fletcher & Towne, supplies	2 20
Kendall & Higgins, supplies	2 20
Charles A. Cole, blacksmithing	2 00
M. Frank Lucas, lumber	1 87

Total, as per item No. 3 of expenses

\$6,979 77

Books, Stationery and Printing.

Appropriation	\$4,500 00
The Newton Graphic, printing, etc.	\$1,125 23
Fanning Printing Co., printing, etc.	603 78
Newton Journal, printing, etc., ...	249 26
Rockwell & Churchill, printing, etc.	229 80
Fort Hill Embossing & Printing Co., printing, etc., ...	9 25
Fred G. Barker, printing etc., ...	3 75
<i>Amounts carried forward</i>	\$2,221 07

\$4,500 00

<i>Amounts brought forward</i>	\$2,221 07	\$4,500 00
Alfred Mudge & Son, printing.	.	
etc.	2 25	
Charles H. Stacy, stamps and stamped envelopes . . .	551 24	
Newton Postoffice, stamped envelopes, etc. . . .	97 80	
C. L. Bourne, stamped en- velopes, etc.	33 80	
Benjamin F. Otis, postage stamps	14 30	
J. Q. Fuller, Boston directories	30 00	
American Bank Note Co., check books	136 00	
M. Sanson's, lime pens . . .	24 00	
Banker & Tradesman, subscrip- tion	5 00	
Atherton Rubber Co., rubber bands	9 75	
Drew, Allis & Co., maps and directories of Newton . . .	60 80	
Aaron R. Gay & Co., supplies	259 21	
Thomas Groom & Co., supplies	105 15	
C. J. Buffam & Co., supplies	77 00	
J. L. Fairbanks & Co., supplies	50 55	
Hooper Lewis & Co., supplies	42 90	
J. M. Whittemore & Co., sup- plies	40 54	
M. R. Warren, supplies . . .	27 60	
Samuel Ward Co., supplies . .	19 88	
Adams, Putnam & Co., supplies	19 50	
<i>Amounts carried forward</i>	\$3,828 34	\$4,500 00

<i>Amounts brought forward</i>	\$3,828 34	\$4,500 00
Francis Doane & Co., supplies	16 67	
H. C. Dimond & Co., supplies	11 77	
A. L. Shipman's Sons, supplies	10 15	
Library Bureau, supplies .	10 00	
Wyckoff, Seaman's & Benedict, supplies	7 50	
Dennison Mfg. Co., supplies	6 75	
Samuel Hobbs & Co., supplies	3 75	
J. F. D. Brooks, binding books	3 75	
Sundry small bills	11 35	

Total, as per item No. 4 of expenses		\$3,910 03
--------------------------------------	--	------------

Balance unexpended, transferred into excess and deficiency account		\$589 97
---	--	----------

Board of Health.

Appropriation		\$4,000 00
Additional appropriation by order of city council		2,750 00
		<u>\$6,750 00</u>

W. S. French, services as agent of board	\$1,250 00	
Isaac F. Kingsbury, services as agent of board	50 00	
Charles H. Johnson, services for agent	333 00	
James Page, services for agent	2 50	
Madison Bunker, services for agent	7 00	

<i>Amounts carried forward</i>	\$1,642 50	\$6,750 00
--------------------------------	------------	------------

<i>Amounts brought forward</i>	\$1,642 50	\$6,750 00
W. H. Mague, collecting house offal, etc.	2,220 00	
Stephen F. Cate, use of teams	417 25	
George W. Bush, use of teams	37 50	
J. B. Stoddard, use of teams	11 00	
J. Frank Makee, use of teams	5 00	
J. B. Stoddard, repair to hack	42 00	
Fanning Printing Co., printing etc., ...	49 00	
The Newton Graphic, advertis- ing, etc.	23 75	
Newton Journal, advertising, etc.	15 75	
John A. Kenrick, treasurer, highway department, labor, men and teams, Clinton street drain.	261 96	
F. E. Hamblin, drain pipe, Clinton street drain .	221 22	
City of Newton, catch basins, etc., Clinton street drain .	55 74	
M. W. Sands, brick, Clinton street drain	55 00	
Timothy Stuart, labor, Clinton street drain	1 50	
Arthur Muldoon, labor, men and teams, Knowles street drain	378 20	
F. E. Hamblin, drain pipe, Knowles street drain .	115 02	
<i>Amounts carried forward</i>	\$5,552 39	\$6,750 00

<i>Amounts brought forward</i>	\$5,552 39	\$6,750 00
M. W. Sands, brick, Knowles street drain	40 00	
H. W. Clapp & Co., sewer grates, Knowles street drain	20 25	
Waldo Brothers, drain pipe, Knowles street drain .	14 25	
M. Frank Lucas, lumber, Knowles street drain .	13 47	
Gilkey & Stone, cement, Knowles street drain	9 00	
Dr. J. F. Frisbie, vaccinations	11 25	
Dr. F. E. Crockett, vaccinations	9 50	
Boston City Hospital, care of sundry persons . . .	20 00	
Dr. E. S. Wood, analysis of lead pipe	20 00	
Arthur Hudson, analysis of water, etc.	19 53	
W. H. Pettee, examination of pipe	15 00	
F. T. Burgess, testing plumbing	3 50	
M. C. Laffie, serving summons	222 65	
R. M. Lucas, serving summons	171 76	
Wm. S. French, sundry cash expenses	83 48	
M. C. Higgins, material and labor	4 86	
M. Commors, material and labor	3 00	
Bridget Cox, labor . . .	4 80	
<i>Amounts carried forward,</i>	\$6,233 89	\$6,750 00

<i>Amounts brought forward</i>	\$6,233 89	\$6,750 00
Catherine Schinneek, labor .	3 98	
Mrs. B. Ryan, labor . .	3 53	
Stephen F. Cate, <i>et al</i> return of deaths	92 00	
Alice E. Bailey, nurse . .	70 75	
Mary Hahn, nurse . .	32 00	
R. T. Taffe, patrolman . .	31 20	
W. H. Condrin, patrolman .	28 80	
R. B. Conroy, patrolman .	19 20	
W. F. Palmer, patrolman .	7 20	
John Purcill, patrolman .	3 50	
Thomas Furdan, patrolman .	2 40	
E. Schumacher, board of An- derson family	21 00	
C. H. Jenison, expressage .	7 38	
Adams Express Co., expressage	4 30	
Eames Express, expressage .	2 50	
Weeks & Potter, supplies .	60 01	
George H. Ingraham, supplies	38 27	
Mrs. Dunn, supplies . .	37 37	
J. A. & W. Bird & Co., supplies	29 30	
John Ayles, supplies . .	28 85	
J. F. Robinson, supplies .	14 75	
O. B. Leavitt, supplies . .	9 45	
O. F. Lucas, supplies. . .	9 44	
A. L. Gordon, supplies . .	6 63	
Alonzo Whitney, supplies .	4 01	
Fred L. Cook, supplies . .	2 74	
Bernard Billings, supplies .	2 25	
Jordan Marsh & Co., supplies	2 00	
<i>Amounts carried forward</i>	\$6,823 50	\$6,750 00

<i>Amounts brought forward</i>	\$6,823 50	\$6,750 00
A. W. Snow, material and labor	2 80	
B. F. Houghton, supplies .	1 70	
C. F. Eddy & Co., coal .	3 05	
Dennis Foley and others, bury- ing dogs	12 75	
American Public Health As- sociation	2 00	
W. O. Knapp & Co., supplies	1 18	
John J. Noble, supplies . .	1 18	
Sundry small bills	10 00	
Total, as per item No. 5 of expenses		\$6,848 16
Amount overdrawn, transferred into excess and deficiency account		\$98 16

(Burial Lot Soldiers and Sailors.)

Newton Cemetery Corporation for lot for burial of soldiers and sailors under petition No. 11,264, of Charles Ward Post 62, Grand Army of the republic, as per item No. 6 of expenses	\$3,500 00
--	------------

Burial Grounds.

Appropriation	\$400 00
Services of Henry Ross, Super- intendent	\$200 00
Material and labor	188 06
Total, as per item No. 7 of expenses	\$388 06
Balance unexpended, transferred into excess and deficiency account	\$11 94

Claffin Schoolhouse (Old) Special Appropriation.

J. F. Farrell, construction of cellar	\$1,502 43	
C. S. Packard, moving building	500 00	
Higgins & Nickerson, material and labor	1,306 00	
Walker & Pratt Mfg. Co., material and labor	809 63	
H. W. Leach & Co., material and labor	367 00	
F. T. Burgess, material and labor	181 46	
Total, as per item No. 8 of expenses		\$4,666 52

City Engineer's Department.

Appropriation		\$8,000 00
Albert F. Noyes, services as city engineer	\$2,404 00	
Fred. H. Barnes, services as assistant city engineer	807 00	
I. W. Hastings, services as assistant city engineer	789 00	
William P. Morse, services as assistant city engineer	662 50	
David Hinckley, services as assistant city engineer	462 67	
Henry Jefferson, services as assistant city engineer	299 67	
Stella J. Lewis, clerical and stenographic services	586 00	
<i>Amounts carried forward</i>	\$6,010 84	\$8,000 00

<i>Amounts brought forward,</i>	\$6,010 84	\$8,000 00
Alfred O. Doane, services . . .	347 20	
Albert H. Elder, services . . .	104 50	
Severance Burrage, services . . .	76 02	
A. L. Patrick, services . . .	55 24	
Augustus Sweetland, services . . .	48 00	
C. R. Brown, services . . .	41 35	
Edward G. Blaisdell, services . . .	40 01	
George V. Phipps, services . . .	25 22	
Wm. C. Whiston, services . . .	29 88	
Henry W. Ross, service . . .	21 90	
E. A. Elder, services . . .	21 00	
G. Albert Harris, services . . .	16 00	
F. E. Fuller, services . . .	10 84	
J. A. Gould, Jr., services . . .	10 00	
Percy E. Weston, services . . .	5 15	
W. G. S. Chamberlain, services . . .	5 00	
H. L. Burrage, services . . .	4 66	
H. F. Hatch, services, . . .	2 78	
Incidental office and traveling expenses of engineer and assistants	287 78	
Fred H. Barnes, sundry cash expenses	2 26	
Charles G. Tinkham, keeping horse, etc. . . .	239 52	
Stephen F. Cate, keeping horse, etc.	61 06	
P. A. McVicar, blacksmithing	65 60	
McCarty & Nugent, blacksmith- ing	24 38	
<i>Amounts carried forward</i>	\$7,556 19	\$8,000 00

<i>Amounts brought forward</i>	\$7,556 19	\$8,000 00
J. A. Nugent, blacksmithing .	7 60	
F. Ivers & Son, new buggy .	150 00	
E. W. Hodgson, material and labor	46 00	
M. Frank Lucas, material and labor	25 50	
Alex. Griswold, material and labor	14 30	
Ward & Co., material and labor	13 00	
W. Rand, material and labor .	3 10	
Frost & Adams, supplies .	73 67	
Buff & Berger, supplies . .	43 10	
Page & Coffin, supplies . . .	21 50	
Mount Hope Iron Co., supplies	2 45	
Rice, Kendall & Co., paper .	15 30	
Charles H. Stacy, telegrams .	6 16	
Chas. H. Jennison, expressage	3 08	
Sundry small bills	5 40	

Total, as per item No. 9 of expenses		\$7,986 35
--------------------------------------	--	------------

Balance unexpended, transferred into excess and deficiency account		\$13 65
---	--	---------

City Hall Expenses.

Appropriation		\$2,000 00
Newton & Watertown Gas Light Co., gas	\$702 20	
C. F. Eddy & Co., coal . . .	457 49	
Alms-house department, wood .	13 50	
Water department, use of water .	42 92	
<i>Amounts carried forward</i>	\$1,216 11	\$2,000 00

<i>Amounts brought forward</i>	\$1,216 11	\$2,000 00
A. D. Lougee, ice	15 00	
J. D. Wellington, sundry cash expenses	432 76	
H. H. Hunt, material and labor .	152 21	
J. W. Conroy & Son, material and labor	83 30	
Wm. H. French & Co., material and labor	51 06	
George T. Hoyt & Co., material and labor	15 00	
F. H. Humphrey, agent, material and labor	12 75	
W. S. Brown, material and labor .	8 00	
Henry Hanf, material and labor .	4 85	
Cabot Brothers, furniture . . .	15 50	
Charles H. Jenison, expressage .	19 10	
Morss & Whyte, wire gate . . .	12 11	
Newton Odorless Excavating Co., cleaning cesspool	10 00	
H. Barnard & Co., supplies . . .	16 50	
Joel Goldthwait, supplies . . .	9 06	
Jones, McDuffie & Stratton, supplies	6 00	
Austin & Fellows, supplies . . .	5 00	
Sundry small bills	8 35	
Total, as per item No. 10 of expenses		\$2,092 66
Amount overdrawn, transferred into excess and deficiency account		\$92 66

Elections and Registration of Voters.

Appropriation	\$1,900 00	
Transferred from appropriation for interest on city loans, tempor- ary	2,000 00	
Transferred from appropriation for fuel and street light department	1,000 00	
		\$4,900 00
George E. Bridges, registrar . . .	\$150 00	
George H. Bourne, registrar . . .	150 00	
R. T. Sullivan, registrar	100 00	
Amos L. Hale, registrar	50 00	
Isaac F. Kingsbury, registrar . . .	150 00	
Carrie Blodgett, clerical services . .	60 00	
Theo. A. Fleu, clerical services . . .	13 00	
Gertrude A. Elder, clerical services . .	12 00	
Fred H. Barnes, clerical services . . .	6 00	
Fort Hill Embossing and Printing Co., voting lists, etc.	335 75	
Newton Journal, advertising, etc. . .	249 75	
Fanning Printing Co., printing ballots, etc.	224 75	
The Newton Graphic, advertising, etc.	217 01	
George H. Pratt & Co., printing . . .	83 05	
Drew, Allis & Co., maps of Newton . .	70 00	
Newcomb & Gauss, printing	20 50	
Harvard Printing Co., printing . . .	16 00	
Rockwell & Churchill, printing . . .	9 50	
Wright & Potter Printing Co., printing	8 50	
<i>Amounts carried forward</i>	\$1,925 81	\$4,900 00

<i>Amounts brought forward</i>	\$1,925 81	\$4,900 00
A. R. Gay & Co., blank books, etc.	45 50	
Thomas Groom & Co., blank books, etc.	16 50	
W. Tomlinson & Son, supplies .	34 00	
Joseph Lee, supplies	16 80	
Jones, McDuffee & Stratton, lamps	40 75	
H. C. Dimond & Co., stamps .	28 00	
New Haven Clock Co., clocks .	7 50	
I. F. Kingsbury, sundry cash ex- penses	15 70	
Henry Turner, use of Nonantum hall	60 00	
Newton Centre Associates, use of hall	40 00	
Henry F. Ross, use of Tremont hall	30 00	
E. Stevens, use of Lincoln hall .	25 00	
C. H. Tainter, use of hall . . .	25 00	
George H. Gregg, use of hall .	16 00	
Nonantum Young Men's Associa- tion, use of hall	3 00	
F. W. Freeman, use of Boyden Hall	2 00	
Rodney M. Lucas, serving notices	44 00	
M. C. Laffie, serving notices, etc.	20 00	
Stephen F. Cate, use of teams .	38 50	
Central Stables, use of teams . .	23 00	
H. C. Daniels, use of teams . . .	21 00	
S. L. Pratt, use of teams	20 15	
John Purcell, use of teams . . .	16 00	
H. A. & F. B. Spear, use of teams	13 25	
C. G. Tinkham, use of teams .	10 00	
<i>Amounts carried forward</i>	\$2,537 46	\$4,900 00

<i>Amounts brought forward,</i>	\$2,537 46	\$4,900 00
J. Frank Makee, use of teams . . .	8 00	
H. A. Spear, use of team . . .	3 00	
J. T. Hill, use of team . . .	2 00	
Henry H. Hunt, material and labor	661 40	
Martin C. Laffie, material and labor	311 27	
W. J. Henderson, material and labor	18 75	
John Ghant, material and labor . .	9 00	
J. C. Farrar, material and labor . .	8 50	
B. S. Wetherbee, material and labor	6 00	
Joshua L. Randall, material and labor	5 00	
Alex. Griswold, material and labor	3 60	
Higgins & Nickerson, material and labor	3 00	

ELECTION OFFICERS WARD 1.

R. O. Evans, warden . . .	15 00
E. A. Smallwood, deputy warden . .	14 00
S. C. Stevens, clerk . . .	16 00
G. R. Aston, deputy clerk . . .	16 00
Fred H. Stone, inspector . . .	6 00
H. H. Powell, inspector . . .	10 00
Wm. F. Grace, inspector . . .	6 00
C. H. Stuart, inspector . . .	20 00
Fred H. Loveland, inspector . . .	6 00
W. H. Partridge, inspector . . .	5 00
E. F. Smallwood, deputy inspector	8 00
A. P. Bugbee, deputy inspector . .	16 00
Myles J. Joyce, deputy inspector . .	3 00
Arthur Buckingham, deputy in- spector	7 00

<i>Amounts carried forward</i>	<u>\$3,724 98</u>	<u>\$4,900 00</u>
--------------------------------	-------------------	-------------------

<i>Amounts brought forward</i>	\$3,724 98	\$4,900 00
Daniel J. Mahoney, deputy inspector	3 00	
Charles A. Hahn, deputy inspector	3 00	

WARD 2.

H. P. Dearborn, warden	10 00	
W. W. Palmer, deputy warden	3 00	
Willard S. Higgins, clerk	10 00	
A. B. Tainter, deputy clerk	6 00	
J. D. Billings, inspector	10 00	
L. H. Cranitch, inspector	10 00	
H. C. Hayden, inspector	5 00	
J. W. Cotton, inspector	8 00	
J. H. Williams, deputy inspector	6 00	
George K. Littlefield, deputy in- specter	6 00	

PRECINCT 1, WARD 2.

H. P. Dearborn, warden	10 00	
C. B. Lowell, deputy warden	6 00	
Louis E. G. Green, clerk	10 00	
Uriah H. Dyer, deputy clerk	6 00	
L. H. Cranitch, inspector	10 00	
J. D. Billings, inspector	10 00	
E. Bradshaw, inspector	10 00	
Louis T. Watson, inspector	10 00	
Walter Connors, deputy inspector	6 00	
Theodore G. Cutler, deputy in- specter	6 00	
W. J. Dunn, deputy inspector	6 00	
E. M. Rumery, deputy inspector	6 00	

<i>Amounts carried forward</i>	\$3,900 98	\$4,900 00
--------------------------------	------------	------------

<i>Amounts brought forward</i>	\$3,900 98	\$4,900 00
--------------------------------	------------	------------

PRECINCT 2, WARD 2.

Willard S. Higgins, warden .	10 00
Alfred B. Tainter, deputy warden .	6 00
George A. Mead, clerk . .	5 00
James W. Page, clerk and deputy clerk	8 00
W. W. Palmer, inspector . .	10 00
John W. Cotton, inspector . .	10 00
E. W. Bailey, inspector . .	5 00
J. H. Williams, inspector . .	10 00
C. H. Johnson, inspector and deputy inspector	8 00
A. A. Savage, deputy inspector .	6 00
W. S. Cunningham, deputy inspector	6 00
Geo. M. Bridges, deputy inspector	6 00
Charles H. Tainter, deputy inspector	3 00
J. H. Page, deputy inspector .	3 00

WARD 3.

H. C. Wood, warden	20 00
F. E. Hunter, deputy warden .	12 00
M. F. Hargedon, clerk . . .	5 00
Geo. M. Cox, clerk	10 00
G. C. Russell, deputy clerk . .	3 00
Eugene F. Conroy, deputy clerk .	6 00
W. L. Colby, inspector . . .	5 00
F. H. Humphrey, inspector . .	20 00
A. R. Coe, inspector	15 00
A. Stuart Pratt, inspector . .	10 00
G. L. V. Tyler, inspector . . .	10 00

<i>Amounts carried forward</i>	\$4,112 98	\$4,900 00
--------------------------------	------------	------------

<i>Amounts brought forward</i>	\$4,112 98	\$4,900 00
Edwin F. Kimball, inspector . . .	5 00	
George A. Rice, inspector . . .	5 00	
F. C. Sheridan, deputy inspector . .	14 00	
E. L. Lemon, deputy inspector . . .	12 00	
C. A. Wyman, deputy inspector . . .	6 00	
J. W. Gaw, deputy inspector . . .	6 00	

WARD 4.

George E. Johnson, warden . . .	15 00	
Bernard Early, acting and deputy warden	14 00	
Henry H. Mather, clerk . . .	10 00	
G. Lyman Snow, clerk and deputy clerk	11 00	
P. A. MeVicar, deputy clerk . . .	3 00	
Henry Washburn, inspector . . .	20 00	
G. W. Chamberlain, inspector . . .	20 00	
Fred Plumber, inspector . . .	10 00	
W. C. Brown, inspector . . .	5 00	
C. W. Fordham, inspector . . .	5 00	
B. B. Clark, inspector and deputy inspector	16 00	
M. Walsh, deputy inspector . . .	3 00	
T. C. Donovan, deputy inspector . .	6 00	
A. B. Hayden, deputy inspector . .	6 00	
E. H. Kenney, deputy inspector . .	6 00	
F. R. Kimball, deputy inspector . .	6 00	
Albert H. Taylor, inspector . . .	5 00	

<i>Amounts carried forward</i>	\$4,321 98	\$4,900 00
--------------------------------	------------	------------

Amounts brought forward \$4,321 98 \$4,900 00

WARD 5.

A. J. Grover, warden . . .	10 00
J. W. Howe, deputy warden . .	6 00
Walter C. Merrill, clerk . . .	5 00
C. H. McAleer, clerk . . .	5 00
D. Kelleher, deputy clerk . . .	10 00
Fred A. O'Connor, inspector . .	10 00
C. B. Bancroft, inspector . . .	5 00
Otis Pettee, inspector . . .	5 00
John J. Kenefick, deputy inspector	3 00
George. F. Leonard, deputy inspec- tor	6 00

PRECINCT 1. WARD 5.

A. J. Grover, warden . . .	10 00
John W. Howe, deputy warden . .	6 00
Frank W. Barney, clerk . . .	10 00
C. B. Baneroft, deputy clerk . . .	6 00
D. Kelleher, inspector . . .	10 00
Otis Pettee, inspector . . .	10 00
Martin H. Duran, inspector . . .	5 00
Erastus Gott, inspector . . .	10 00
J. F. Brown, deputy inspector. . .	6 00
Eben Thompson, deputy inspector .	6 00
Frank Fanning, inspector and dep- uty inspector	8 00
C. H. McAleer, deputy inspector . .	3 00
John D. Buckley, deputy inspector	3 00

Amounts carried forward \$4,479 50 \$4,900 00

<i>Amounts brought forward</i>	\$4,479 50	\$4,900 00
--------------------------------	------------	------------

PRECINCT 2. WARD 5.

Joseph R. Smith, warden . . .	10 00
John Glover, deputy warden . . .	6 00
F. B. Spear, clerk . . .	10 00
E. H. Greenwood, deputy clerk . . .	6 00
F. A. O'Connor, inspector . . .	10 00
C. H. Burr, inspector . . .	8 00
G. F. Leonard, inspector . . .	10 00
H. W. Taylor, inspector . . .	10 00
D. J. Clifford, deputy inspector . . .	7 00
Alfred W. Small, deputy inspector . . .	6 00
Newton Crane, deputy inspector . . .	6 00
Charles H. Hale, deputy inspector . . .	1 00

WARD 6.

Samuel M. Jackson, warden . . .	20 00
Asa C. Jewett, deputy warden . . .	9 00
Zadoc Long, clerk . . .	15 00
George E. Wales, deputy clerk . . .	9 00
Arthur Muldoon, inspector . . .	15 00
Howard Carlton, inspector . . .	15 00
James Cutler, inspector . . .	5 00
Thomas G. Woodman, inspector . . .	5 00
James W. Hill, inspector . . .	10 00
D. M. McWain, inspector . . .	18 00
W. H. Thorpe, clerk and deputy inspector	11 00
W. Thorpe, inspector and deputy inspector	11 00
Harvey G. Ruhe, deputy inspector . . .	6 00
H. A. Tomlinson, deputy inspector . . .	6 00

<i>Amount carried forward</i>	\$4,724 98	\$4,900 00
-------------------------------	------------	------------

<i>Amounts brought forward</i>	\$4,724 98	\$4,900 00
--------------------------------	------------	------------

WARD 7.

Amasa W. B. Huff, warden . . .	25 00
J. Edward Hills, deputy warden . .	5 00
Moses Clark, Jr., clerk . . .	25 00
H. C. Daniels, deputy clerk . . .	15 00
R. B. Edes, inspector . . .	25 00
George W. Lamson, inspector . .	20 00
Arthur C. Mudge, inspector . . .	5 00
Lawrence M. Clark, inspector . .	5 00
George M. Weed, inspector . . .	6 00
Henry H. Applin, inspector . . .	5 00
J. W. Howard, inspector and dep- uty inspector	19 00
L. H. Farlow, inspector and dep- uty inspector	11 00
F. A. Barrows, deputy inspector . .	3 00
G. S. Brazer, deputy inspector . .	4 00
M. V. B. Payne, deputy inspector .	4 00
Sundry small bills	4 00

Total, as per item No. 11 of expenses	\$4,905 98
---------------------------------------	------------

Amount overdrawn, transferred into excess and deficiency account	\$5 98
---	--------

Fire Department.

Appropriation . . .	\$28,100 00		
Transferred from appropriation for miscellaneous expenses	238 50		
			\$28,338 50
Henry L. Bixby, chief of department	\$1,600 00		

STEAMER NO. 1.

F. E. Judkins, engineer	\$1,000 00		
George K. Stacy, substi- tute engineer . . .	38 70		
John Deary, driver . . .	800 00		
J. S. Williams, substi- tute driver . . .	30 90		
F. A. Dexter, driver hose	650 00		
J. S. Williams, substi- tute driver, hose . . .	25 10		
B. F. Tripp, stoker . . .	100 00		
Isaac Jefferson, stoker and hoseman	100 00		
E. W. Lyons, foreman . . .	110 00		
J. F. Horrigan, assistant foreman and sec'y . . .	105 00		
John McCammon, hose- man	100 00		
P. C. Carroll, hoseman . . .	100 00		
A. R. Carley, hoseman . . .	100 00		
Walter Pingree, hose- man	91 67		
<i>Am'ts carried forward</i>	\$3,351 37	\$1,600 00	\$28,238 50

<i>Amounts bro't forward</i>	\$3,351 37	\$1,600 00	\$28,238 50
R. M. Lyons, substitute hoseman . . .	8 33		
		\$3,359 70	

STEAMER NO. 2 AND CHEMICAL.

R. S. Cummings, engineer . . .	\$1,000 00		
George K. Stacy, substitute engineer .	38 70		
Charles L. Berry, driver	800 00		
J. S. Williams, substitute driver .	30 90		
J. H. Saunders, driver hose . . .	239 50		
Jere Saunders, substitute driver hose .	410 50		
J. S. Williams, substitute driver, hose .	25 10		
George H. Haynes, foreman . . .	110 00		
F. H. Humphrey, assistant foreman and secretary . . .	105 00		
H. W. Nicholl, hoseman	100 00		
Joseph Commons, hoseman . . .	100 00		
C. M. Kebbe, hoseman	100 00		
George K. Stacy, hoseman . . .	77 49		
George F. Saunders, hoseman . . .	62 50		
<i>Am'ts carried forward</i>	\$3,199 69	\$4,959 70	\$28,238 50

<i>Am'ts brought forward</i>	\$3,199 69	\$4,959 70	\$28,238 50
W. J. Riley, hoseman and substitute hoseman . . .	87 50		
J. Q. A. Hawkes, hose- man	33 33		
C. Davis, substitute hoseman	12 50		
	—————	\$3,333 02	

STEAMER NO. 3.

A. D. Colby, engineer	\$1,000 00		
George K. Stacy, substi- tute engineer . . .	38 70		
P. E. Ellis, driver . .	800 00		
J. S. Williams, substi- tute driver	30 90		
J. Frank Higbee, driver hose	650 00		
J. S. Williams, substi- tute driver hose . .	25 10		
C. E. Thompson, stoker	100 00		
A. I. English, foreman	110 00		
S. F. Chadbourne, as- sistant foreman and secretary . . .	105 00		
D. McDonald, hoseman	100 00		
C. J. Polley, hoseman	100 00		
C. B. Garey, hoseman	100 00		
W. B. Polley, hoseman	100 00		
J. McMahan, hoseman	79 17		
Charles A. Peck, hose- man	16 66		
	—————	\$3,355 53	

<i>Amounts carried forward</i>	\$11,648 25	\$28,238 50
--------------------------------	-------------	-------------

Amounts brought forward \$11,648 25 \$28,238 50

HOOK AND LADDER NO. 1.

J. E. Watson, driver	\$800 00	
J. S. Williams, substitute driver . . .	30 90	
W. S. Higgins, foreman	110 00	
F. B. Sisson, assistant foreman and secretary	105 00	
O. Dow, ladderman .	100 00	
T. C. Nickerson, ladderman	100 00	
U. H. Dyer, ladderman	100 00	
J. Beal, ladderman .	100 00	
J. B. Watt, ladderman	100 00	
J. F. Horrigan, ladderman	100 00	
C. Coleman, ladderman	100 00	
M. McLeod, ladderman	100 00	
A. A. Savage, ladderman	100 00	
J. H. Williams, ladderman	100 00	
		\$2,045 90

HOSE NO. 4.

Tyler C. Holmes, driver	\$650 00	
J. S. Williams, substitute driver . . .	25 10	
E. C. Waterhouse, foreman	110 00	

Amounts carried forward 785 10 \$13,694 15 \$28,238 50

<i>Amounts brought forward</i>	785 10	\$13,694 15	\$28,238 50
A. J. Wandless, assistant foreman and secretary . . .	105 00		
Daniel Archibald, hoseman	100 00		
J. W. Cook, hoseman	83 33		
J. S. Williams, hoseman	66 67		
W. P. Snell, hoseman	50 00		
		\$1,190 10	

HOSE NO. 5.

D. J. Cooney, driver	\$650 00		
J. S. Williams, substitute driver . . .	25 10		
J. F. Washburn, foreman	110 00		
J. U. Kimball, assistant foreman and secretary	105 00		
John Frost, hoseman	100 00		
J. M. Taylor, hoseman	100 00		
C. H. Hall, hoseman	100 00		
		\$1,190 10	

HOSE NO. 6.

Bernard Early, foreman	\$110 00		
Daniel J. Corcoran, assistant foreman and secretary .	105 00		
P. E. O'Neil, hoseman	100 00		

<i>Amounts carried forward</i>	\$315 00	\$16,074 35	\$28,238 50
--------------------------------	----------	-------------	-------------

Amounts brought forward, \$315 00 \$16,074 35 \$28,238 50

Timothy E. Healy, hose-

man 100 00

Andrew B. Hayden,

hoseman . . . 100 00

Jeremiah Splaine, hose-

man 66 66

W. H. Ayles, Jr., sub-

stitute hoseman . 33 33

————— \$614 99

HOSE NO. 7.

J. E. Trowbridge, driver \$325 00

W. S. Cargill, foreman 110 00

Harley A. Smith, assist-

ant foreman and
secretary . . . 105 00

J. E. Trowbridge, hose-

man 100 00

G. H. Osborne, hose-

man 100 00

J. T. Thomason

hoseman . . . 100 00

J. L. Randall, hoseman

100 00

————— \$940 00

Eighteen firemen extra

services July 4th

54 00

Amounts carried forward

————— \$17,683 34

————— \$28,238 50

Amounts brought forward \$17,683 34 \$28,238 50

Repairs, Supplies and Incidentals.

W. H. Mague, exchange of horses	\$225 00	
Valentine Stanley, for one gray horse	200 00	
C. F. Eddy & Co., grain	678 10	
George E. Johnson, grain	453 64	
Albert Brackett & Son, grain	450 09	
N. W. Tupper, grain	621 40	
H. W. Crowell, grain	448 77	
C. F. Eddy & Co., coal	552 86	
J. W. Mitchell, coal	267 63	
Albert Brackett & Son, coal and wood	226 14	
B. C. Baker, coal and wood	42 10	
John Dolan, coal	12 00	
J. W. Hill, wood	11 50	
Newton & Watertown Gas Light Co., gas	479 51	
Water Department, use of water	132 04	
J. C. Farrar, exchange of wagon	100 00	
J. C. Farrar, blacksmithing	156 47	
Murray & Farrell, blacksmithing	107 67	
McCarthy & Nugent, blacksmithing	85 03	
B. F. Barlow, blacksmithing	73 58	
Thomas Belger, blacksmithing	24 00	
J. A. Nugent, blacksmithing	23 03	
D. J. O'Donnell, blacksmithing	22 50	
P. A. McVicar, blacksmithing	11 80	
S. D. Keegan, blacksmithing	7 50	
Charles A. Cole, blacksmithing	6 40	

Amounts carried forward \$23,102 10 \$28,238 50

<i>Amounts brought forward</i>	\$23,102 10	\$28,338 50
Waltham Steam Laundry, laundry .		
work	82 53	
Mrs. Margaret Smith, laundry		
work	33 71	
Mrs. Thomas Pureill, laundry		
work	22 24	
Mrs. J. A. Butterick, laundry work .	20 96	
Madison Bunker, attendance upon		
sick horses	175 00	
J. R. McLaughlin, attendance upon		
sick horses	28 50	
Wm. H. Mague, use of horses . . .	77 00	
Dennis Leahy, use of horses . . .	13 13	
John Hackett, use of horses . . .	7 00	
George H. Ellis, use of horses . . .	5 25	
Bernard McFaden, use of horses . .	3 50	
Timothy Stuart, use of horses . . .	1 75	
Cornelius McBride, use of horses . .	1 75	
Stephen F. Cate, use of team . . .	39 00	
C. H. Jennison, expressage	17 05	
Adams Express, expressage	4 65	
Eames Express, expressage	4 50	
Boston & Albany R. R., freight . .	3 34	
Edwin Rogers & W. E. Deerow		
excelsior gong etc	115 29	
J. Hinman, set of wheels for chemi-		
cal, etc	88 29	
Alden Speare's Sons & Co. Oil . . .	26 85	
Uneo American Lubricating Co. axle		
grease	10 20	
<i>Amounts carried forward</i>	\$22,883 59	\$28,338 50

<i>Amounts brought forward</i>	\$23,883 59	\$28,338 50
J. N. Danforth, horse salve . . .	12 00	
Boston Belting Co. packing . . .	109 46	
The Rhode Island Coupling Co. hose		
pipe, etc	84 75	
Peck & Whipple, whips	24 00	
Peter Gray, lanterns	15 00	
S. A. White, cleaning carpets . . .	15 65	
Leander Barber, brooms	8 00	
Charles H. Stacy, telegrams, stamps		
etc	3 55	
James Saunders, allowance for		
injuries	162 50	
J. F. Horrigan, allowance for		
injuries	20 00	
Dr. F. L. Thayer, medical atten-		
dance	76 00	
Drs. O. E. & W. O. Hunt, medical at-		
tendance	2 00	
H. B. Wells, horse dentistry . . .	32 00	
M. Gorman, clipping horse	3 00	
Charles E. Berry, material and labor	30 00	
D. W. Brownell, material and		
labor	24 95	
R. J. Gilfeather, material and labor .	17 82	
F. H. Humphrey, material and labor .	13 64	
E. W. Hodgson, material and labor .	11 90	
Newton Machine Co., material and		
labor	11 52	
Alex Griswold, material and labor .	10 95	
<i>Amounts carried forward</i>	\$24,572 28	\$28,338 50

<i>Amounts brought forward</i>	\$24,572 28	\$28,338 50
Scramage Bros. & Cook, material and labor	8 75	
Mrs. J. Carroll, material and labor .	8 15	
Hill & Langtry, material and labor .	6 00	
H. H. Hunt, material and labor .	5 25	
Samuel D. Garey, material and labor .	4 71	
J. Carroll, material and labor . . .	3 85	
Bigelow Mfg. Co., material and labor	3 50	
B. Early, material and labor . . .	3 20	
C. W. Ring, material and labor .	3 00	
J. H. Williams, material and labor .	2 00	
Higgins & Nickerson, material and labor	1 80	
Pope Mfg. Co., material and labor .	1 55	
John Frost, material and labor .	1 45	
Isaac Smith, material and labor .	1 25	
J. F. Horrigan, material and labor .	1 25	
C. F. Hovey & Co., supplies . . .	51 90	
Pettingill, Andrews & Co., supplies	39 45	
Edward E. Rice & Co., supplies .	31 36	
Page & Coffin, supplies . . .	20 37	
Barber Brothers, supplies . . .	16 29	
H. E. Woodbury, supplies . . .	14 15	
W. C. Smith, supplies	12 00	
Wm. H. Wilson, supplies . . .	11 00	
George H. Ingraham, supplies . .	10 56	
J. E. Trowbridge, supplies . . .	10 65	
The American Fire Hose Mfg. Co supplies	9 85	
<i>Amounts carried forward</i>	\$24,855 57	\$28,338 50

<i>Amounts brought forward,</i>	\$24,855 57	\$28,338 50
George W. Ellison, supplies . . .	9 00	
A. W. Mitchell, supplies . . .	7 60	
Scovill Mfg. Co., supplies . . .	7 50	
George L. Baxter, supplies . . .	7 20	
H. W. Wellington, supplies . . .	6 58	
W. F. Nye, supplies . . .	6 10	
J. Cartwright, supplies . . .	5 00	
Babbitt Soap Co., supplies . . .	4 50	
C. G. Braxmar, supplies . . .	4 50	
Ordway, Kimball & Loring, supplies	4 00	
Emil Meyers, supplies . . .	3 75	
Putnam & Co., supplies . . .	3 25	
C. B. Barrett & Co., supplies . . .	3 00	
Elliot W. Keyes, supplies . . .	3 00	
John W. Noble, supplies . . .	2 95	
A. L. Gordon, supplies . . .	2 00	
I. R. Stevens, supplies . . .	1 91	
Henry L. Bixby, sundry cash expenses	21 16	
Sundry small bills . . .	11 50	
	\$24,970 07	\$28,338 50

Fire Alarm Telegraph.

Walter B. Randlett, assist- ant chief and fire alarm telegraph oper- ator . . .	\$1,200 00		
George G. Perkins, tele- graph line man . . .	800 00		
<i>Am'ts carried forward</i>	\$2,000 00	\$24,970 07	\$28,338 50

<i>Am'ts brought forward</i>	\$2,000 00	\$24,970 07	\$28,338 50
Edwin Rogers & W. E. Decrow, fire alarm boxes, etc., . . .	818 60		
Edward E. Rice & Co., vitriol . . .	219 02		
Washburn & Moen Mfg. Co., wire . . .	115 85		
Edwin Rogers, wire, etc. .	104 51		
Pevey Brothers, zines .	87 28		
J. Hinman, electric wire cutters . . .	50 00		
Charles A. Cole, insulator pins . . .	36 90		
Eastern Electric Cable Co., wire, etc. . .	30 50		
F. E. Pettingill & Co., cross arms . . .	30 00		
Hall & Washburn, painting poles . . .	29 00		
Timothy Stuart, labor, men and teams . . .	23 82		
A. R. Carley, material and labor . . .	44 00		
P. Y. Hoseason, material and labor . . .	17 22		
V. Haffermehl, material and labor . . .	17 00		
F. H. Humphrey, agent, material and labor .	10 46		
J. C. Farrar, blacksmithing	25 92		
<i>Am'ts carried forward</i>	<u>\$3,660 08</u>	<u>\$24,970 07</u>	<u>\$28,338 50</u>

<i>Amounts bro't forward</i>	\$3,660 08	\$24,970 07	\$28,338 50
Newton & Watertown Gas			
Light Co., gas . . .	6 60		
Walter B Randlett, sundry			
cash expenses . . .	4 55		
A. W. Mitchell, keys,			
badges, etc. . . .	2 25		
George Woodman & Co.,			
supplies	9 00		
American Electrical Works,			
supplies	8 24		
Barber Brothers, supplies	7 84		
Conant Rubber Co., supplies	3 44		
John Federhen & Sons,			
supplies	3 25		
Walworth Mfg. Co., sup-			
plies	3 04		
Eames Express, expressage	2 65		
J. Wiley Edmands, labor	53 50		
John Nally, labor . . .	14 00		
Dennis Hennesey, labor .	12 25		
James Driscoll, labor .	12 25		
Sundry small bills . . .	5 84		
		\$3,808 78	
Total, as per item No. 12 of expenses			\$28,778 85
Amount overdrawn, transferred into excess and deficiency account. . . .			\$440 35

Funded Debt.

Town of Newton notes. Paid to the First National Bank of Boston, note 4 per cent. due April 20, as per item No. 13 of expenses \$23,000 00

Schoolhouse note (Williams and Eliot). Paid to Lynn Institution for Savings, note 4 per cent. due Jan. 25, as per item No. 14 of expenses . . . 5,150 00

School note (addition to High School building). Paid to Sinking Fund Commissioners of Taunton, note 3 1-2 per cent. due Oct. 4, as per item No. 15 of expenses . . . 4,500 00

Newton Free Library note (enlargement of library building.) Paid to Five Cents Savings Bank, Salem, note 3 1-2 per cent, due Oct. 4, as per item No. 16 of expenses . . . 4,600 00

Highways, Curbing.

Appropriation \$2,000 00

John A. Kenrick, treasurer, labor, men and teams, Highway department \$1,034 58

Noah Prescott, curbstone . . . 724 23

Amounts carried forward . . . \$1,758 81 \$2,000 00

<i>Amounts brought forward</i>	\$1,758 81	\$2,000 00
Boston & Albany Railroad, freight	221 10	
Total, as per item No. 17 of expenses		\$1,979 91
Balance unexpended, transferred into excess and deficiency account		\$20 09

Drains and Culverts.

Appropriation	\$11,500 00	
Additional amount received from abutters on Middlesex road, for drainage by order of City Council	350 00	
Additional appropriation by order of City Council	500 00	
Transferred from appropriation for removal of ashes by order of City Council	500 00	
		\$12,850 00
John A. Kenrick, treasurer, labor, men and teams, Highway de- partment	\$7,654 14	
F. E. Hamblin, drain pipe	1,640 23	
M. W. Sands, brick	1,145 90	
J. F. Lucas, laying brick	703 98	
Waldo Brothers, cement	405 00	
A. H. Roffe, cement	3 50	
H. W. Clapp & Co., sewer grates .	222 75	
Parker Holmes & Co., rubber boots	131 37	
A. B. Potter, use of land	100 00	
<i>Amounts carried forward</i>	\$12,006 87	\$12,850 00

<i>Amounts brought forward</i>	\$12,006 87	\$12,850 00
Gilkey & Stone, lumber . . .	77 00	
Noah Prescott, stone . . .	61 00	
Thomas F. Mague, stone . . .	7 00	
Timothy Stuart, sand . . .	54 00	
Boston & Albany R. R. Co., freight	89 99	
M. Frank Lucas, stakes . . .	16 50	
George E. Stuart, sundry cash expenses	4 27	
John W. Scott, blacksmithing .	36 60	
J. C. Farrar, blacksmithing . .	29 31	
Murray & Farrell, blacksmithing .	19 33	
Thomas Belger, blacksmithing .	16 92	
George H. Sampson, powder, etc .	32 62	
Pettee Machine Works, material and labor	110 00	
T. J. Hartnett, material and labor	74 10	
Stephen Holmes, material and labor	19 19	
Alfred Fitzpatrick, material and labor	13 65	
J. Q. Harrington, filing saws. .	3 25	
A. S. Morss, supplies	15 75	
Barber Brothers, supplies . . .	5 57	
O. F. Lucas, supplies	3 14	
S. O. Thayer & Co., supplies . .	2 07	
Stephen F. Cate, use of teams .	2 00	
Sundry small bills	6 13	
Total, as per item No. 18 of expenses		\$12,706 26
Balance unexpended, transferred into excess and deficiency account		\$143 74

Highways, General Repairs.

Appropriation	\$60,000 00	
Additional appropriation by order of City Council	10,000 00	
Received from City Treasury by order of City Council, amount from sale of crushed stone to Newton Street Railway	1,611 00	
Transferred from appropriation for removal of ashes	500 00	
		\$72,111 00
William E. Fuller, superintendent of streets	\$1,700 00	
John J. Ware, assistant superintend- ent of streets	939 00	
John A. Peck, assistant superintend- ent of streets	87 00	
Charles A. Peck, assistant superin- tendent of streets	828 00	
George E. Stuart, assistant superin- tendent of streets	1049 77	
Samuel M. Jackson, assistant super- intendent of streets	76 00	
John A. Kenrick, treasurer, amount paid laborers on discharge tickets	682 09	
John A. Kenrick, treasurer, amount paid laborers, as per pay-rolls	46,603 67	
William E. Fuller, sundry cash ex- penses	10 00	
<i>Amounts carried forward</i>	\$51,975 53	\$72,111 00

<i>Amounts brought forward</i>	\$51,975 53	\$72,111 00
John J. Ware, use of horse and carriage	200 00	
Estate John A. Peck, use of horse and carriage	100 00	
Charles A. Peck, use of horse and carriage	100 00	
George H. Sampson, powder, etc. .	1394 91	
W. H. Thompson, horses	801 00	
W. H. Mague, horses	600 00	
Moody Johnson, horse	250 00	
J. R. McLaughlin, care of sick horses	130 00	
H. B. Wells, horse dentistry .	76 00	
Farrell Foundry & Machine Co., plates, etc.	643 14	
H. M. Darling & Co., tools, etc. .	484 62	
Dodge Haley & Co., tools, etc. .	205 37	
Ross Brothers, tools, etc. . . .	31 60	
F. Ivers & Son, 2 new wagons .	325 00	
James Fogie & Son, new harness .	137 75	
Simpson Brothers, concreting .	307 44	
Lidgerwood Mfg. Co., upright boiler	198 50	
Water Department, use of water .	165 40	
George F. Works, chestnut posts .	88 80	
Newton & Watertown Gas Light Co., gas	64 60	
Bradlee, Hastings & Co., steel, etc.	54 43	
Mellen S. Harlow, powder, etc. .	52 75	
Lamkin & Foster, rubber boots .	30 90	
<i>Amounts carried forward</i>	\$58,417 74	\$72,111 00

<i>Amounts brought forward</i>	\$58,417 74	\$72,111 00
J. McCammon, rubber boots	4 50	
Ames Plow, Co., plow	39 00	
J. H. Houghton, steam hose, etc.	36 50	
Francis Supple, tool steel, etc.	27 00	
John A. Kenrick heirs, stone	45 00	
Waldo Brothers, cement	36 00	
Wm. Jessop & Sons, steel	25 20	
Boston & Lockport Block Co., blocks	15 75	
Andrew J. Fiske & Co., drain pipe	15 73	
Newton Cemetery Corporation, trees	16 00	
Leander Barber, brooms	15 00	
J. N. Danforth, horse salve	10 00	
Dr. O. E. & W. O. Hunt, medical attendance	10 00	
R. G. Woodman, use of land	8 00	
Roberts Iron Works Co., inspection of boilers	4 10	
Edw. Kendall & Sons, inspection of boilers	2 25	
J. Q. Harrington, filing saws	7 25	
Charles A. Peck, rope and blocks	6 00	
Gould Packing Co., packing	5 88	
Crosby Steam Gauge & Valve Mfg. Co., gauge	4 05	
B. Billings, grain	382 47	
C. F. Eddy & Co., grain	338 83	
N. W. Tupper, grain	314 02	
Albert Brackett & Son, grain	287 79	
H. W. Crowell, grain	245 28	
<i>Amounts carried forward</i>	\$60,319 34	\$72,111 00

<i>Amounts brought forward</i>	\$60,319 34	\$72,111 00
George E. Johnson, grain . . .	73 60	
H. D. Parmenter, hay . . .	383 68	
N. W. Tupper, hay . . .	377 48	
Albert Brackett & Son, hay . . .	325 27	
D. Hall & Son, hay . . .	192 00	
C. F. Eddy & Co., hay . . .	191 17	
A. B. Potter, hay . . .	166 88	
H. W. Crowell, hay . . .	198 76	
George E. Johnson, hay . . .	96 46	
Alms-house department, hay . . .	82 95	
Samuel M. Jackson, hay . . .	81 68	
Wm. Dix, hay . . .	71 64	
F. Jones, hay . . .	66 28	
H. B. Braman, hay . . .	62 10	
Estate Charles A. Kidder, hay . . .	60 19	
Charles A. Warren, hay . . .	50 60	
N. B. Douglas, hay . . .	38 70	
George D. Dix, hay . . .	25 03	
H. W. Crowell, straw . . .	355 52	
Cousens Brothers, coal . . .	207 33	
C. F. Eddy & Co., straw . . .	185 45	
George E. Johnson, straw . . .	149 93	
Albert Brackett & Son, straw . . .	145 82	
C. F. Eddy & Co., coal . . .	744 38	
J. W. Mitchell, coal . . .	217 08	
N. W. Tupper, straw . . .	96 14	
Albert Brackett & Son, coal . . .	62 07	
George Warren & Co., coal . . .	7 00	
J. W. Hill, coal . . .	6 75	
George Hamill, wood . . .	35 75	
<i>Amounts carried forward</i>	\$65,077 03	\$72,111 00

<i>Amounts brought forward</i>	\$65,077 03	\$72,111 00
John Ward, carrots	19 70	
J. C. Farrar, blacksmithing . .	779 28	
J. Puleifer, blacksmithing . .	237 14	
Murray & Farrell, blacksmithing .	331 92	
Thomas Belger, blacksmithing . .	233 15	
A. Danforth, agt. blacksmithing .	207 02	
McCarthy & Nugent, blacksmithing .	161 75	
John W. Scott, blacksmithing . .	131 28	
P. A. McVicar, blacksmithing . .	110 05	
Charles A. Cole, blacksmithing . .	92 84	
D. J. O'Donnell, blacksmithing . .	79 90	
T. W. Mullen, blacksmithing . .	61 61	
B. F. Barlow, blacksmithing . .	54 01	
S. D. Keegan, blacksmithing . .	37 25	
J. A. Nugent, blacksmithing . .	31 27	
Andrew Peters, blacksmithing . .	27 89	
Vacuum Oil Co., oil	235 91	
Maverick Oil Co., oil	68 59	
Alden Speare's Sons & Co., oil . .	39 00	
Butchers Slaughtering and Melting Association, oil	8 63	
Frank L. Young, axle grease . . .	7 91	
Atlas Chemical Co., axle grease . .	5 00	
Charles H. Stone & Co., grass seed, .	2 35	
Samuel Jackson, labor, men and teams .	124 25	
Stephen F. Cate, use of teams . . .	56 00	
C. G. Tinkham, use of teams . . .	3 00	
Central stables, use of teams . . .	2 50	
S. Riley, use of wagon	3 00	
W. H. Thompson, use of horse . . .	40 50	
<i>Amounts carried forward</i>	\$68,269 73	\$72,111 00

<i>Amounts brought forward,</i>	\$68,269 73	\$72,111 00
N. Wales, board of horse . . .	30 00	
W. C. Parker, board of horse . . .	6 76	
Boston & Albany R. R. Co., freight . . .	29 30	
N. Y. & N. E. R. R., Co., freight . . .	6 50	
Wilson's Express, expressage . . .	21 60	
F. H. Hunting, expressage . . .	18 20	
C. H. Jennison, expressage . . .	10 05	
George L. Pearson, expressage . . .	8 45	
Dyson Brothers, expressage . . .	3 70	
Fife's Express, expressage . . .	3 10	
R. Stanley, horse liniment . . .	3 00	
Bemis & Jewett, material and labor . . .	337 18	
Samuel D. Garey, material and labor . . .	327 04	
Isaac Smith, material and labor . . .	277 04	
C. H. & A. F. Ireland, material and labor	246 75	
Wm. Petigrew, material and labor . . .	246 27	
Higgins & Nickerson, material and labor	213 71	
Alex Griswold, material and labor . . .	184 65	
D. W. Brownell, material and labor . . .	166 45	
Newton Machine Co., material and labor	164 70	
J. O. Evans' Sons, material and labor . . .	152 38	
E. W. Hodgson, material and labor . . .	136 90	
T. F. Glennan, material and labor . . .	98 85	
Pettee Machine Works, material and labor	93 98	
A. W. Snow, material and labor . . .	62 78	
Charles J. Polley, material and labor . . .	61 30	
<i>Amounts carried forward</i>	\$71,180 73	\$72,111 00

<i>Amounts brought forward</i>	\$71,180 37	\$72,111 00
Mrs. J. Carroll, material and labor .	61 29	
Peter C. Baker, material and labor .	52 50	
W. Rand, material and labor . .	51 25	
Johnson & Jefferson, material and labor	48 19	
J. F. Horrigan, material and labor .	40 50	
W. L. Smith, material and labor .	25 74	
O. B. Leavitt, material and labor .	23 66	
Stephen Holmes, material and labor .	22 77	
W. H. Bustin, material and labor .	17 00	
P. Y. Hoseason, material and labor .	13 50	
C. G. Estes, material and labor .	10 33	
D. H. Andrews, material and labor .	10 00	
F. H. Humphrey, agt. material and labor	6 45	
J. W. Conroy & Sons, material and labor	5 00	
R. J. Gilfeather, material and labor .	5 00	
John Connell, material and labor .	3 75	
Alfred Fitzpatrick, material and labor .	3 54	
L. H. Cranitch, material and labor .	3 00	
M. C. Higgins, material and labor .	2 33	
W. J. Henderson, material and labor .	2 11	
J. R. Nason, material and labor .	2 00	
Butts & Ordway, supplies . .	71 44	
Cobb, Bates & Yerxa, supplies .	62 00	
Barber Brothers, supplies . .	46 67	
F. O. Dewey & Co., supplies . .	32 25	
W. O. Knapp & Co., supplies . .	32 89	
Walworth Mfg. Co., supplies . .	26 22	
<i>Amount carried forward</i>	\$71,861 75	\$72,111 00

<i>Amounts brought forward</i>	\$71,861 75	\$72,111 00
George H. Ingraham, supplies . . .	25 88	
S. O. Thayer & Co., supplies . . .	20 83	
Thos. B. Adams & Co., supplies . . .	18 39	
Hawkridge Brothers	15 20	
J. E. Trowbridge, supplies	15 11	
G. P. Atkins, supplies	13 82	
Sewall & Day Cordage Co., supplies . . .	10 41	
B. F. Houghton, supplies	8 23	
Perrin, Seamans & Co., supplies	8 00	
Thomas Hollis, supplies	7 00	
Hubbard & Proctor, supplies	5 85	
John F. Payne, supplies	5 15	
A. A. Savage, supplies	5 13	
I. R. Stevens, supplies	5 00	
Isaac H. Snow, supplies	4 90	
John J. Noble, supplies	4 11	
Ingersol H. Sargent, Rock Drill Co. supplies	4 00	
E. Moulton, supplies	3 39	
O. F. Lucas, supplies	2 60	
A. C. Daniels, supplies	2 00	
John Goodnow, award for damages . . .	5 00	
Sundry small bills	28 30	
		\$72,080 05
Total as per item No. 19 of expenses.		
Balance unexpended transferred into excess and deficiency account.		\$30 95

Gravel Land.

Appropriation		\$1,000 00
Kate Kelley, land	\$200 00	
Estate of Dennis O'Donnell, gravel . .	100 00	
Almshouse department, gravel . .	100 00	
W. E. Scribner, gravel	47 30	
C. S. Pulsifer, gravel	32 00	
Patrick Murphy, gravel	21 30	
George K. and John Ward, stone . .	200 00	
Miss Julia Goddard, stone	61 00	
Wm. R. Dresser, sand	25 20	
Henry F. Ross, sand	2 75	
Total as per item No. 20 of expenses .		789 55
Balance unexpended, transferred into excess and deficiency account		\$210 45

Land Damages.

Appropriation	\$500 00	
Transferred to appropriation for side- walks, etc.	450 00	
		\$50 00
Caroline A. Paddock, for land taken to widen River street as per item No. 21 of expenses		\$50 00

Removal of Ashes.

Appropriation	\$5,000 00	
Transferred to appropriation for high- ways, general repairs	500 00	
Transferred to appropriation for drains and culverts	500 00	
		\$4,000 00
<i>Amount carried forward</i>		\$4,000 00

<i>Amount brought forward</i>		\$4,000 00
John A. Kenrick, treasurer, labor, men and teams, Highway de- partment	\$3,551 96	
Timothy Stuart, use of teams	10 50	
A. Danforth, agent, blacksmithing . .	52 14	
B. F. Barlow, blacksmithing	5 00	
Alex. Griswold, material and labor . .	32 02	
E. W. Hodgson, material and labor . .	29 75	
T. F. Mague, material and labor . . .	23 62	
Sundry small bills	2 75	
Total as per item No. 22 of expenses .		<u>3,707 74</u>
Balance unexpended, transferred into excess and deficiency account		\$292 26

Sidewalks and Street Crossings.

Appropriation	\$14,000 00	
Transferred from appropriation for land damages	450 00	
	<u> </u>	\$14,450 00
John A. Kenrick, treasurer, labor, men and teams, Highway de- partment	\$6,259 51	
Simpson Brothers, concreting	7,333 07	
Peter C. Baker, material and labor . .	205 88	
Higgins & Nickerson, material and labor	80 57	
S. D. Garey, material and labor . . .	76 55	
H. H. Hunt, material and labor . . .	21 42	
J. L. Sears, material and labor . . .	15 00	
<i>Amounts carried forward</i>	<u>\$13,992 00</u>	<u>\$14,450 00</u>

<i>Amounts brought forward</i>	\$13,992 00	\$14,450 00
C. H. & A. F. Ireland, material and labor	11 35	
Lewis E. Coffin, sods	85 90	
James Meehan, sods	39 32	
C. B. Bourne, sods	22 59	
Thomas F. Mague, sods	20 64	
John Burke sods	14 29	
P. Coleman, sods	3 50	
John Dolan, stone	40 22	
John W. Scott, blacksmithing	8 95	
Charles A. Cole, blacksmithing	5 00	
Sundry small bills	2 14	
Total as per item No. 23 of expenses		14,245 90
Balance unexpended, transferred into excess and deficiency account		\$204 10

Widening, Reconstruction and Improvements.

Appropriation	\$15,500 00	
John A. Kenrick, treasurer, amount paid for labor, men and teams, as per pay rolls	\$13,430 78	
F. E. Hamblen, drain pipe, etc.	502 98	
D. Jackson, building wall	997 31	
Timothy Stuart, labor, men and teams	90 00	
M. W. Sands, brick	82 00	
Albert Brackett & Son, hay, etc.	23 00	
Newton Coal Co., coal	4 00	
George H. Sampson, powder, etc.	21 65	
<i>Amounts carried forward</i>	\$15,151 72	\$15,500 00

<i>Amounts brought forward</i>	\$15,151 72	\$15,500 00
H. M. Darling & Co., tools, etc.	5 50	
Thomas Belger, blacksmithing . .	61 75	
John W. Scott, blacksmithing . .	36 38	
Murray & Farrell, blacksmithing .	4 80	
Stephen Holmes, material and labor .	33 00	
Pettee Machine Works, supplies .	20 00	
Barber Brothers, supplies . .	6 25	
Sundry small bills	4 50	
Total as per item No. 24 of expenses .		15,323 90
Balance unexpended, transferred into excess and deficiency account		\$176 10

Interest on City Loans, Permanent.

Appropriation		\$14,000 00
Commonwealth of Massachusetts .	\$5,820 00	
National Bank of the Commonwealth,	2,230 00	
National Revere Bank	2,230 00	
Estate of John Brewster	1,102 50	
Salem Five Cents Savings Bank .	483 00	
First National Bank, Boston . .	460 00	
Cape Ann Savings Bank	412 00	
Winchester Savings Bank	412 00	
Sinking Fund Commissioners, City of Newton	206 00	
Sinking Fund Commissioners, City of Taunton	157 50	
Lynn Institution for Savings . . .	103 00	
Total as per item No. 25 of expenses .		13,616 00
Balance unexpended, transferred into excess and deficiency account		\$384 00

Interest on City Loans, Temporary.

Appropriation	\$10,000 00	
Transferred to appropriation for elections and registration of voters, \$2,000 00		
Transferred to appropriation for miscellaneous expenses	1,100 00	
Transferred to appropriation for armory expenses	200 00	
Transferred to appropriation for State aid	200 00	
		3,500 00
		\$6,500 00
Potter Lovell Co., ...	\$4,113 34	
Trustees of the Read fund	1,588 00	
John A. Kenrick, treasurer, on account of uninvested portion of Kenrick Fund	115 00	
West Newton Savings Bank	50 00	
Total, as per item 26 of expenses		\$5866 34
Balance unexpended, transferred into excess and deficiency account		\$633 66

Interest on Water Bonds.

Appropriation	\$61,500 00
Jan. 1, 1889, National Bank of the Commonwealth	\$24,250 00
March 25, National Bank of the Com- monwealth	6,300 00
July 1, National Revere Bank	24,250 00
Sept. 30, National Revere Bank	6,540 00
Total, as per item No. 27 of expenses	\$61,340 00
Balance unexpended, transferred into excess and deficiency account	\$160 00

Indigent Soldiers and Sailors

Appropriation	\$1,000 00
John Sexton	\$120 00
Samuel G. Toothachre	120 00
Jefferson Thomas	120 00
Samuel Franklin	96 00
James H. Lockley	96 00
Matthew Duncan	88 00
Albert P. Bugbee	82 00
Samuel Wallis	70 00
John Taffe	54 00
Patrick Carrigan	48 00
John F. Franklin	48 00
James Harkins	8 00
<i>Amounts carried forward</i>	\$950 00
	\$1,000 00

<i>Amounts brought forward,</i>	\$950 00	\$1,000 00
Post 75, G. A. R. of Stoneham, funeral expenses	35 00	
Total, as per item No. 28 of expenses		\$985 00
Balance unexpended, transferred into excess and deficiency account		\$15 00
Memorial Day.		
Appropriation		\$500 00
Charles Ward Post, No. 62, G. A. R., as per item No. 30 of expenses .		\$500 00
Miscellaneous Expenses.		
Appropriation	\$7,000 00	
Transferred from appropriation for interest on city loans temporary	1,100 00	
Transferred from appropriation for street light department . . .	1,000 00	
Transferred from city treasury on account, reassessments of taxes Ward 4	157 63	
	\$9,257 63	
Transferred to appropriation for fire department	\$238 50	
		\$9,019 13
Boston & Albany R. R. Co., award by court, for proportion of expense of Auburn street bridge . . .	\$2,716 67	
Anna S. P. Sawin, settlement of claim	1,417 39	
Andrew Peters, settlement of claims	300 00	
<i>Amounts carried forward</i>	\$4,434 06	\$9,019 13

<i>Amounts brought forward</i>	\$4,434 06	\$9,091 13
Heman M. Burr, Mayor, and Winfield S. Slocum, City Solicitor, settlement of claim	800 00	
M. C. Laffie, serving warrants, etc. .	796 75	
Rodney M. Lucas, serving warrants etc.	97 99	
Samuel W. Tucker, serving warrants etc.	34 05	
John A. Kenrick, treasurer, amount paid for trimming trees, as per pay-rolls	482 89	
New England Telegraph and Telephone Co., rental of instruments and service	428 21	
Winfield S. Slocum (City Solicitor) for legal expenses	400 00	
Newton Athenæum, aid for reading room	350 00	
Newton Centre Associates, aid for reading room	250 00	
George E. Bridges, services collecting facts of births	257 50	
Samuel M. Jackson, invalid tax title	163 71	
H. W. Mason, abstract of deeds for assessors	200 00	
Kern & McLeod, abstract of deed for assessors	10 00	
Drs. F. G. Curtis and W. O. Hunt, et al, returns of births	18 00	
<i>Amounts carried forward</i>	\$8,723 16	\$9,019 13

<i>Amounts brought forward</i>	\$8,723 16	\$9,019 13
Charles B. Stevens, register recording papers for City Solicitor . . .	9 06	
C. S. Holbrook, premium for insurance Newton Free Library . . .	150 00	
Francis Murdock, premium for insur- ance, Newton Free Library . . .	90 00	
E. Holman, premium for insurance, Newton Free Library . . .	80 00	
Isaac F. Kingsbury, City Clerk for amount paid for printing memo- rial volume of the 200th anniver- sary of the incorporation of the town of Newton . . .	275 00	
Nellie M. Heywood, clerical services in Assessors' department . . .	195 00	
C. M. Jordan, clerical services in As- sessors' department . . .	157 00	
George E. Bridges, clerical services in City Clerk's department . . .	70 00	
J. C. Brimblecom, clerical services in Treasurer's department . . .	45 00	
L. A. Richardson, clerical services in Treasurer's department . . .	33 00	
Gertrude A. Elder, clerical services in Treasurer's department . . .	20 00	
Mabel F. Kenrick, clerical services in Treasurer's department . . .	11 00	
J. C. Brimblecom, clerical services in City Clerk's department . . .	25 00	
<i>Amount carried forward</i>	\$9,883 22	\$9,019 13

<i>Amounts brought forward</i>	\$9,883 22	\$9,019 13
Edwin Rogers & W. E. Deerow, one fire alarm signal box at High School	125 00	
Boston Safe Deposit & Trust Co, rent of boxes	60 00	
Newton Journal, printing, etc. .	16 00	
The Newton Graphic, printing, etc. .	15 00	
Fanning Printing Co., printing .	6 75	
Charles H. Stacy, rent of box, tele- grams, etc	14 89	
Water Department, use of water .	29 69	
Theo. A. Fleu, services inspecting coal	50 00	
J. D. Wellington, incidental expenses in Messenger's department .	44 83	
C. A. Miner, incidental expenses in Assessor's department . .	30 08	
Isaac F. Kingsbury, incidental ex- penses in City Clerk's depart- ment	37 60	
Benjamin F. Otis, incidental expenses in Auditor's department . .	22 53	
John A. Kenrick, incidental expenses in Treasurer's department . .	19 98	
Stephen F. Cate, use of teams . .	292 25	
J. Frank Makee, use of teams . .	92 00	
H. C. Daniels, use of teams . .	5 50	
J. B. Stoddard, use of teams . .	5 00	
S. L. Pratt, use of teams . . .	3 00	
Central Stables, use of teams . .	2 75	
<i>Amounts carried forward</i>	<u>\$10,756 07</u>	<u>\$ 9,019 13</u>

<i>Amounts brought forward</i>	\$10,756 07	\$9,019 13
Samuel M. Jackson, use of team in assessing taxes	80 00	
C. A. Miner, use of team in assessing taxes	20 00	
James Paxton, supplies	69 75	
Mrs. A. D. Wood, supplies	32 00	
J. J. Johnson, supplies	30 00	
H. A. Mansfield, supplies	15 00	
LeClanche Battery Co., supplies	12 48	
C. H. Ramsdell & Co., supplies	4 17	
Claffin Guard, on account of Memorial Day	10 00	
Commonwealth of Massachusetts, one quarter fees of druggist licenses	5 25	
George W. Chamberlain, ringing bell	6 00	
James Moore, ringing bell	6 00	
F. B. Sisson, ringing bell	6 00	
A. C. Marston, ringing bell	6 00	
A. S. Connelly, ringing bell	6 00	
J. C. Newcomb, ringing bell	6 00	
J. B. McClellan, ringing bell	4 00	
J. T. Thomason, ringing bell	3 00	
B. S. Wetherbee, ringing bell	3 00	
C. W. Florence, ringing bell	3 00	
A. F. A. G. Libby, ringing bell	3 00	
Sundry small bills	10 81	
Total as per item No. 31 of expenses		\$11,097 53
Amount overdrawn transferred into excess and deficiency account.		\$2078 40

Newton Free Library.

Appropriation		\$10,295 00
Elizabeth P. Thurston, services as librarian	\$983 33	
H. W. Harlowe, services as assistant librarian	500 00	
Louise J. Smallwood, services as assist- ant librarian	450 00	
Etta P. Cleaveland, services as assist- ant librarian	450 00	
C. A. Flanders, services as assistant librarian	450 00	
K. K. Wood, services as assistant librarian	375 00	
Chester A. Bass, services as janitor .	733 33	
Henry J. Marshman, [services as jan- itor	66 67	
C. R. Young, services as substitute janitor	12 00	
W. B. Clarke & Co., books . . .	1,238 49	
Little, Brown & Co., books . . .	905 08	
N. J. Bartlett & Co., books . . .	239 00	
Estes & Lauriat, books	223 94	
Boston Book Co., books	119 00	
Carl Schoenhoff, books	73 13	
Ticknor & Co., books	30 75	
H. Williams, books	20 00	
Henry C. Nash, books	17 00	
William Cushing, books	15 00	
Cassell & Co., limited, books . .	14 00	

Amounts carried forward

\$6,915 72	\$10,295 00
------------	-------------

<i>Amounts brought forward</i>	\$6,915 72	\$10,295 00
D. Appleton & Co., books . .	12 00	
Houghton, Mifflin & Co., books . .	11 00	
Interstate Publishing Co., books . .	9 37	
Wm. McDonald & Co., books . .	8 75	
Balch Bros. & Graham, books . .	5 00	
Moses King Corporation, books . .	5 00	
John Cutler, subscriptions . .	148 50	
Henry D. Noyes, subscriptions . .	131 90	
Nickleson & Co., subscriptions . .	24 00	
E. R. Curtis & Co., subscriptions . .	18 00	
Journal Newspaper Co., subscription	13 72	
Boston Daily Advertiser, subscription	12 00	
Globe Printing Co., subscription . .	12 00	
The Evening Post, subscription . .	9 00	
George W. Armstrong, subscription . .	8 25	
The News & Courier Co., subscrip- tion	8 00	
The Republican Co., subscription . .	7 00	
The Boston Herald, subscription . .	6 00	
The Sun, subscription	6 00	
The World, subscription	6 00	
Constitutional Pub. Co., subscription	6 00	
Gazette Printing Co., subscription . .	6 00	
The Tribune, subscription	6 00	
Post Publishing Co., subscription . .	6 00	
Charles C. Fulton & Co., subscription	6 00	
L. R. Hammersley & Co., subscription	5 00	
Evening Star Newspaper Co., sub- scription	5 00	
<i>Amounts carried forward</i>	\$7,417 21	\$10,295 00

<i>Amounts brought forward,</i>	\$7,417 21	\$10,295 00
Alta California Publishing Co., sub- scription	4 50	
Curtis Guild & Co., subscription .	4 00	
Garden & Forest Publishing Co., sub- scription	4 00	
H. G. Parker, subscription . .	3 20	
Edward J. Goodrich, subscription .	3 00	
George H. Pratt, subscription . .	2 50	
The Newton Graphic, subscription .	2 00	
American Statistical Association, sub- scription	2 00	
H. C. Daniels, expressage of books .	844 61	
Neil McGinnes, expressage of books	175 00	
L. N. Burbank, expressage of books	42 00	
M. C. Laffie, expressage of books .	29 50	
Newton & Watertown Gas Light Co., gas	569 40	
Water department, use of water .	10 00	
Albert Brackett & Son, coal . .	288 40	
J. H. H. McNamee, binding books .	380 05	
Newton Journal, printing slips .	30 00	
Pond Desk Co., desk	22 60	
Howard Brothers, ice	20 00	
Newton Centre Associates, services agency	75 00	
W. C. Gaudet, services agency .	50 00	
Alfred Brush, services agency . .	40 00	
A. E. Brickett, services agency .	40 00	
Bernard Billings, services agency .	40 00	
Everett E. Moody, services agency .	33 00	
<i>Amounts carried forward</i>	<u>\$10,131 97</u>	<u>\$10,295 00</u>

<i>Amounts brought forward</i>	\$10,131 97	\$10,295 00
C. W. Kinder, services agency	20 00	
Stephen Holmes, material and labor	17 69	
Timothy Stuart, subscription water- ing street	5 00	
Library Bureau, supplies	46 45	
Peabody & Whitney, supplies	17 50	
A. R. Gay & Co., supplies	14 00	
Mitchell Wing, supplies	12 00	
Hooper Lewis & Co., supplies	10 50	
Oscar F. Howe, supplies	7 50	
Charles H. Stone & Co., supplies	5 08	
A. J. Worthley, supplies	3 60	
C. W. H. Moulton & Co., supplies	3 60	
Total, as per item No 32 of expenses		10,294 89

Balance unexpended transferred into excess and deficiency account.	11
---	----

Newton Cottage Hospital.

Appropriation, ...	\$1,500 00
Paid George S. Bullens, treasurer, as per item No. 33 of expenses	1,500 00

Parks and Squares.

Appropriation	\$2,000 00
Myles J. Joyce, care of Farlow Park	467 50
John Walsh, care of Linwood Park	82 00
John Farrell, care of Newtonville Park	76 00
Charles P. Powell, care Lincoln Park	46 50
Arthur Muldoon, material and labor, Newton Centre	364 00
<i>Amounts carried forward</i>	\$1,036 00
	\$2,000 00

<i>Amounts brought forward</i>	\$1,036 00	\$2,000 00
W. J. Towne, loam	250 90	
Newton Cemetery, for trees . . .	170 50	
Newton Highlands Improvement Association	76 86	
George M. Fiske, expended for improvement of Walcott Park . .	27 00	
Thomas F. Mague, labor on Lincoln Park	25 00	
J. J. Johnson, plants for Farlow Park	25 00	
A. J. McFaden	14 00	
J. Stearns, labor on Park, junction of Centre and Clark streets . . .	10 00	
Sidney G. Steeves, material and labor	8 48	
J. C. Farrar, material and labor . .	4 00	
John A. Halfrey, cleaning pond Farlow Park	4 00	
Stephen F. Cate, use of team . . .	5 00	
O. F. Lucas, sharpening lawn mowers	3 00	
Total as per item No. 34 of expenses		\$1,659 74
Balance unexpended transferred into excess and deficiency account.		\$340 26

Police Department.

Appropriation	\$33,195 00
-------------------------	-------------

REGULAR POLICE OFFICERS.

Charles F. Richardson, city marshal	\$1,600 00
Charles E. Davis, captain of police .	1,200 00
Charles P. Heustis, sergeant of police .	1,086 00

<i>Amounts carried forward</i>	\$3,886 00	\$33,195 00
--------------------------------	------------	-------------

<i>Amounts brought forward</i>	\$3,886 00	\$33,195 00
Noah F. Bosworth, patrolman . . .	1,000 00	
Frank B. Fletcher, patrolman . . .	1,000 00	
Ambrose M. Fuller, patrolman . . .	1,000 00	
Robert S. Harrison, patrolman . . .	1,000 00	
Rufus H. Moulton, patrolman . . .	1,000 00	
John Purcill, patrolman . . .	1,000 00	
John Ryan, patrolman . . .	1,000 00	
William G. Bosworth, patrolman . . .	995 20	
John W. Conroy, patrolman . . .	995 20	
James D. Henthorn, patrolman . . .	987 45	
Thomas C. Clay, patrolman . . .	971 19	
Charles T. Bartlett, patrolman . . .	968 79	
Charles O. Davis, patrolman . . .	964 00	
Edson C. Holmes, patrolman . . .	960 28	
William C. Emerson, patrolman . . .	918 40	
A. F. A. G. Libby, patrolman . . .	890 95	
John W. Quilty, patrolman . . .	886 15	
William P. Soule, patrolman . . .	772 31	
Bernard F. Burke, patrolman . . .	737 71	
Richard B. Conroy, patrolman . . .	562 38	
William A. Leonard, patrolman . . .	531 52	
George E. F. Baker, patrolman . . .	167 30	
	\$23,194 83	

SPECIAL POLICE OFFICERS.

Richard T. Taffe	211 20	
Charles R. Young	96 00	
Richard B. Conroy	61 00	
Martin C. Laffie	55 20	
Daniel J. Corcoran	24 00	
<i>Amounts carried forward</i>	\$23,642 23	\$33,195 00

<i>Amounts brought forward,</i>	\$23,642 23	\$33,195 00
William H. Condrin	19 20	
William A. Leonard	6 15	
Thomas G. Bruce	4 80	
Frank F. Bartlett	4 80	
Charles W. Florence	4 80	
Reuben Chaplin	4 80	
James Dugan	4 80	
James A. Earley	4 80	
Frederick M. Mitchell	4 80	
R. Orlando Evans	2 40	

INCIDENTAL EXPENSES.

P. A. McVicar, new police patrol wagon and exchange of wagon . .	585 00
Charles G. Tinkham, one horse . .	300 00
E. W. Hodgson, 2 sets harness . .	165 00
Stephen F. Cate, board of horse and use of teams	389 69
Central Stables, use of teams . .	25 00
S. L. Pratt, use of teams . .	23 75
A. A. Sherman & Co., use of teams . .	21 50
Noah F. Bosworth, use of teams . .	18 00
Charles G. Tinkham, use of teams . .	17 50
Robert Weir, use of teams . .	15 55
Fitzgerald Brothers, use of teams . .	13 50
H. A. Spear, use of teams . .	12 00
H. A. & F. B. Spear, use of teams . .	9 50
W. H. McIntosh, use of teams . .	6 75
H. C. Daniels, use of teams . .	6 25
A. F. Harrington, use of teams . .	4 00

<i>Amounts carried forward</i>	\$25,312 57	\$33,195 00
--------------------------------	-------------	-------------

<i>Amounts brought forward</i>	\$25,312 57	\$33,195 00
S. Riley, use of teams	2 50	
John Purcill, conveyance of prisoners	122 71	
John Ryan, conveyance of prisoners .	69 05	
Robert S. Harrison, conveyance of prisoners	11 50	
Frank B. Fletcher, conveyance of prisoners	6 29	
Edson C. Holmes, conveyance of pris- oners	4 06	
Wm. C. Emerson, conveyance of pris- oners	3 84	
John Ayles, meals for prisoners .	113 60	
Mrs. Kate Dunn, meals for prisoners	11 00	
Fred D. Lancaster, meals for prison- ers	10 75	
Frank B. Fletcher, meals for prisoners	9 44	
Ambrose M. Fuller, meals for prisoners	2 37	
Newton & Watertown Gas Light Co., gas	168 80	
Water department, use of water .	39 97	
J. P. Lovell Arms Co., supplies .	141 29	
C. A. Twitchell, badges, etc. . .	59 00	
H. A. Winship, belts, etc. . .	53 02	
D. Evans & Co., department buttons	25 00	
C. Seaver, Jr., photographs . .	13 00	
Charles H. Stacy, telegrams, etc. .	10 90	
Peter Gray, lanterns	10 00	
Francis Doane & Co., typewriter .	10 00	
C. G. Estes, brooms	6 00	
<i>Amounts carried forward</i>	\$26,220 66	\$33,195 00

<i>Amounts brought forward</i>	\$26,220 66	\$33,195 00
J. R. McLaughlin, attendance upon sick horse	55 00	
Dr. F. E. Crockett, medical attend- ance	2 00	
Charles F. Richardson, sundry cash expenses	65 10	
J. D. Henthorn, sundry cash expenses	29 85	
F. B. Fletcher, sundry cash expenses	11 38	
John Ryan, sundry cash expenses .	8 74	
E. C. Holmes, sundry cash expenses	7 49	
W. G. Bosworth, sundry cash expenses	2 90	
Thomas C. Clay, extra services . .	5 46	
W. G. Bosworth, extra service . .	5 46	
Charles F. Richardson, probation officer	50 00	
S. D. Keegan, blacksmithing . .	16 75	
James H. Nickerson, material and labor	29 98	
Ward & Co., material and labor .	24 05	
O. B. Leavitt, material and labor .	16 70	
Clark Mfg. Co., material and labor .	6 85	
Alex. Griswold, material and labor .	6 25	
Mary J. Carroll, material and labor .	2 60	
Bemis & Jewett, material and labor .	5 83	
A. W. Snow, material and labor .	3 00	
J. R. Mason, material and labor .	3 00	
J. Carroll, material and labor . .	2 00	
John Ghant, labor	6 50	
J. Wiley Edmands, labor	2 50	
C. A. Taylor, supplies	15 10	
<i>Amounts carried forward</i>	<u>\$26,605 15</u>	<u>\$33,195 00</u>

<i>Amounts brought forward</i>	\$26,605 15	\$33,195 00
O. F. Lucas, supplies . . .	13 95	
S. O. Aborn, supplies . . .	10 40	
Albert F. Wright, supplies . . .	6 90	
Bent & Bush, supplies . . .	4 50	
George H. Ingraham, supplies . . .	3 45	
D. H. McWain, supplies . . .	2 28	
Margaret Carey, use of tenement . . .	5 00	
Sundry small bills	11 81	

Total, as per item No. 35 of expenses.		\$26,663 44
--	--	-------------

Balance unexpended, transferred into excess and deficiency account		\$6,531 56
--	--	------------

Poor Out of Almshouse.

Appropriation	\$8,800 00	
Transferred to appropriation for Almshouse expenses	200 00	
		\$8,600 00
Nathan Mosman, services as city almoner and clerk of board of overseers	\$1,000 00	
R. O. Evans, services overseer, Ward 1	50 00	
John F. Payne, services overseer, Ward 2	50 00	
Andrew J. Fiske, services overseer, Ward 3	50 00	
Nathan Mosman, services overseer, Ward 4	50 00	
Eugene Fanning, services overseer, Ward 5	50 00	
<i>Amount carried forward</i>	\$1,250 00	\$8,600 00

<i>Amounts brought forward</i>	\$1,250 00	\$8,600 00
George Warren, services overseer, Ward 6	50 00	
Estate John Warner, services overseer, Ward 7	16 66	
Henry C. Daniels, services overseer, Ward 7	33 32	
Nathan Mosman, paid to sundry per- sons	219 13	
Worcester Lunatic Hospital, care of sundry persons	788 13	
Commonwealth of Massachusetts, care of sundry persons	485 39	
Worcester Insane Asylum, care of sun- dry persons	474 03	
Newton Cottage Hospital, care of sun- dry persons	300 06	
Westborough Insane Hospital, care of sundry persons	241 42	
Danvers Lunatic Hospital, care of sun- dry persons	146 25	
Taunton Lunatic Hospital, care of sun- dry persons	98 89	
Northampton Lunatic Hospital, care of sundry persons	64 84	
Massachusetts School for the Feeble Minded, care of Grace Eaton	4 95	
City of Boston, partial support of poor	311 84	
City of Waltham, partial support of poor	54 34	
City of Somerville, partial support of poor	2 05	
<i>Amounts carried forward</i>	\$4,541 30	\$8,600 00

<i>Amounts brought forward</i>	\$4,541 30	\$8,600 00
Town of Chicopee, partial support of poor	96 00	
Town of Natick, partial support of poor	92 97	
Town of Stoneham, partial support of poor	40 00	
Town of Webster, partial support of poor	23 75	
Dr. D. Waldo Stearns, medical atten- dance	52 00	
Dr. J. F. Carroll, medical attendance	49 00	
Dr. G. J. Taylor, medical attendance	30 00	
Dr. F. W. Webber, medical attendance	30 00	
Dr. W. H. Hildreth, medical atten- dance	28 00	
Dr. H. B. Stoddard, medical atten- dance	27 00	
Dr. Eben Thompson, medical atten- dance	19 00	
Dr. E. P. Scales, medical attendance	19 00	
Dr. J. Blodgett, medical attendance	17 00	
Dr. James Utley, medical attendance	15 00	
Dr. Fred E. Crockett, medical atten- dance	15 00	
Dr. F. L. Thayer, medical attendance	12 00	
Dr. Albert Nott, medical attendance .	4 00	
Dr. J. H. Bodge, medical attendance .	2 00	
Drs. O. E. and W. O. Hunt, medical attendance	2 00	
John F. Payne, prescriptions . . .	28 25	
<i>Amounts carried forward</i>	\$5,143 27	\$8,600 00

<i>Amounts brought forward</i>	\$5,143 27	\$8,600 00
W. C. Gaudelet, prescriptions . . .	17 29	
W. M. Russell, prescriptions . . .	15 15	
Hubbard & Procter, prescriptions . .	13 13	
Bernard Billings, prescriptions . . .	8 65	
George H. Ingraham, prescriptions . .	5 65	
James McGourty, funeral expenses . .	34 00	
Stephen F. Cate, funeral expenses . .	17 00	
S. L. Pratt, funeral expenses . . .	10 00	
Fitzgerald Brothers, funeral expenses .	10 00	
W. H. Mague, funeral expenses . . .	10 00	
Newton Cemetery Corporation, inter- ment	5 00	
H. C. Daniels, use of teams . . .	4 50	
Central Stables, use of teams . . .	4 00	
Frank R. Atwood, use of teams . . .	2 50	
Roxbury Home, board of Miss Craw- ley	72 00	
Miss Alice Williston, board of Alice Sullivan	52 80	
Mrs. R. Lewis, board of Miss Richard- son	44 00	
Michael Day, board of Joanna Ken- dricks	28 64	
Mrs. S. Procter, board of the Baldwin children	5 00	
Thomas Greeley, sundry expenses . .	20 56	
J. R. Farnum, rent of house for Mrs. Pitts	120 00	
Mary Stuart, rent of house for Mrs. Ryan	22 50	
<i>Amounts carried forward</i>	\$5,665 64	\$8,600 00

<i>Amounts brought forward</i>	\$5,665 64	\$8,600 00
Mrs. Wm. Collins, rent of house for		
Mrs. Jeffers	16 00	
A. A. Savage, groceries. . . .	576 74	
C. Strout & Sons, groceries	210 50	
A. R. Pitts, groceries	167 48	
H. A. Sherman, groceries	121 50	
J. B. Murphy, groceries	115 01	
G. P. Atkins, groceries	114 00	
Fred L. Cook, groceries	69 70	
W. O. Knapp & Co., groceries	78 30	
W. B. Whittier, groceries	54 00	
Howard B. Coffin, groceries	50 37	
Frank A. Childs, groceries	47 00	
E. Vickers, groceries	42 50	
H. E. Woodberry, groceries	41 85	
B. F. Houghton, groceries	41 10	
Alonzo Whitney, groceries	34 50	
Daniel Warren, groceries	18 25	
B. Billings, groceries	16 06	
J. R. Stevens, groceries	13 85	
John Beal, groceries	12 00	
C. O. Tucker & Co., groceries	10 00	
J. H. Hoyt, groceries	7 16	
J. H. Ryan, groceries	6 42	
W. P. Holden, groceries	4 50	
M. Mahoney, groceries	3 17	
Albert Brackett & Son, fuel	250 58	
C. F. Eddy & Co., fuel	125 25	
Newton Coal Co., fuel	97 65	
J. W. Hill, fuel	94 33	
<i>Amounts carried forward</i>	\$8,105 41	\$8,600 00

<i>Amounts brought forward</i>	\$8,105 41	\$8,600 00
J. W. Mitchell, fuel	83 77	
Almshouse department, fuel . .	60 75	
B. C. Baker, fuel	34 04	
John Dolan, fuel	14 25	
W. J. Burnett, milk	12 81	
John V. Sullivan, supplies . .	27 85	
E. E. Moody, supplies	10 50	
D. Archibald, supplies	8 00	
F. H. Hunting, expressage . .	3 00	
Sundry small bills	11 35	

Total, as per item No. 36 of expenses.		\$8,371 73
--	--	------------

Balance unexpended, transferred into excess and deficiency account		\$228 27
---	--	----------

Public Property.

Appropriation	\$10,000 00	
Additional appropriation by order of City Council	7,950 00	
		\$17,950 00
Walker & Pratt Mfg. Co., venti- lating school building, etc. . .	7,161 89	
Fuller & Warren Co., sanitary con- struction Claflin school building	840 00	
J. Merrill Brown, services as architect	700 00	
Henry J. Preston, services as architect	108 50	
Mrs. Roxanna Stone, for land at New- ton Highlands	1,250 00	
Simpson Brothers, concreting . .	761 43	
<i>Amounts carried forward</i>	\$10,821 82	\$17,950 00

<i>Amounts brought forward</i>	\$10,821 82	\$17,950 00
J. L. Randall, care of Prospect school		
house hall, etc.	147 25	
Cabot Brothers, desk, poor department	60 00	
John A. Kenrick, treasurer, men,		
labor and teams, highway department	163 79	
John A. Kenrick, treasurer, amount		
paid laborers on discharge tickets	13 00	
John Joyce, men, labor and teams .	31 09	
Thomas Foran, labor	7 00	
Waldo Brothers, cement	30 00	
M. J. Donahoe, stone	30 00	
M. W. Sands, brick, etc. . . .	20 00	
C. F. Eddy & Co., cement	11 35	
F. E. Hamblin, drain pipe	10 12	
Newton Odorless Excavating Co.,		
cleaning cesspool	27 50	
L. L. Rowe, furnace regulator	24 00	
Nelson H. Brown, furnace regulator .	15 50	
Stephen F. Cate, use of teams	28 00	
Central Stables, use of teams	22 50	
Wm. Quinn, cleaning engine house		
cellar	12 00	
The Newton Graphic, advertising . .	9 75	
Newton Journal, advertising	7 50	
Quinobequin Association, chandelier .	11 00	
Water department, use of water . . .	6 00	
Jenison's Express, expressage	3 65	
J. F. C. Hyde, premium for insurance		
on building, Auburndale avenue	4 50	
<i>Amounts carried forward</i>	\$11,517 32	\$17,950 00

<i>Amounts brought forward</i>	\$11,517 32	\$17,950 00
H. H. Hunt, material and labor .	1,065 56	
Higgins & Nickerson, material and labor	457 54	
D. O. Driscoll, material and labor .	360 55	
Walworth Construction & Supply Co., material and labor	345 63	
O. F. Lucas, material and labor .	311 14	
Peter C. Baker, material and labor .	293 80	
Myles J. Joyce, material and labor .	197 00	
Isaac Smith, material and labor .	196 78	
Gannon Brothers, material and labor	179 00	
O. B. Leavitt, material and labor .	178 15	
Arthur Muldoon, material and labor .	178 00	
T. J. Hartnett, material and labor .	166 84	
G. S. Noden, material and labor .	165 05	
J. H. Cushman, material and labor .	151 00	
W. P. Leavitt & Son, material and labor	149 00	
J. D. Billings, material and labor .	130 74	
Milo Lucas, material and labor . .	117 59	
Henry F. Wellington, material and labor	115 18	
Thomas F. Mague, material and labor	114 36	
Sidney G. Steeves, material and labor	107 80	
W. L. Stiles, Jr., material and labor	95 85	
A. W. Snow, material and labor .	91 23	
F. T. Burgess, material and labor .	86 40	
Michael Hynes, material and labor .	83 59	
W. E. Scribner, material and labor .	73 22	
<i>Amounts carried forward</i>	\$16,928 32	\$17,950 00

<i>Amounts brought forward</i>	\$16,928 32	\$17,950 00
West End Roofing Co., material and labor	69 57	
J. L. Randall, material and labor	65 00	
Charles A. Hill, material and labor	62 19	
M. C. Higgins, material and labor	61 64	
Edward P. Burnham, material and labor	60 00	
M. Taffe, material and labor	57 19	
Stephen Holmes, material and labor	55 80	
Smith & Anthony Stove Co., material and labor	50 00	
J. F. Horrigan, material and labor	47 50	
L. A. Gammons, material and labor	47 48	
Johnson & Jefferson, material and labor	46 00	
J. W. Conroy & Son, material and labor	44 58	
Edward Browser, material and labor	44 55	
Thomas S. Pingree, material and labor	44 26	
John Farquhar's Sons, material and labor	39 49	
M. Mullen, material and labor	31 88	
L. H. Cranitch, material and labor	31 50	
Hall & Washburn, material and labor	31 50	
Samuel D. Garey, material and labor	30 49	
Allen & Barry, material and labor	29 50	
James P. Keating, material and labor	29 36	
F. W. Cole, material and labor	28 00	
J. A. Nevins, material and labor	26 28	
C. Kieser, material and labor	24 00	
<i>Amounts carried forward</i>	\$17,986 08	\$17,950 00

<i>Amounts brought forward,</i>	\$17,986 08	\$17,950 00
D. A. Young & Co., material and labor	21 50	
J. C. Newcomb, material and labor .	19 25	
F. H. Humphrey, agt., material and labor	17 04	
J. A. Delacey, material and labor .	17 00	
Bemis & Jewett, material and labor .	15 65	
J. C. Farrar, material and labor .	14 15	
George Spring, material and labor .	13 49	
J. O. Evans' Sons, material and labor	12 80	
Burnham & Davis, material and labor	12 00	
Thomas Sinclair, material and labor	11 45	
Robert Blair, material and labor .	11 10	
C. H. & A. F. Ireland, material and labor	10 48	
Edward Pike, material and labor .	10 34	
Fulton Iron Foundry, material and labor	7 50	
J. H. Williams, material and labor .	6 64	
J. M. Briggs, material and labor .	5 50	
J. U. Kimball, material and labor .	5 25	
T. D. Sullivan, material and labor .	5 00	
J. L. Sears, material and labor .	4 80	
Murray & Farrell, blacksmithing .	2 50	
J. Goldthwait & Co., supplies . .	128 14	
S. O. Thayer & Co., supplies . .	116 66	
Jacobs, Whitcomb & Co., supplies .	25 00	
J. E. Trowbridge, supplies . .	14 60	
C. W. Morehouse, supplies . .	11 64	
H. A. Sherman, supplies . . .	11 20	
Thomas Hall, supplies . . .	4 00	
<i>Amount carried forward</i>	<u>\$18,520 76</u>	<u>\$17,950 00</u>

<i>Amounts brought forward</i>	\$18,520 76	\$17,950 00
W. F. Whitmore, supplies	2 00	
Timothy Stuart, trimming trees	2 00	
Sundry small bills	12 70	

Total as per item No. 37 of expenses.		\$18,537 46
---------------------------------------	--	-------------

Amount overdrawn transferred into excess and deficiency account.		\$587 46
---	--	----------

Read Fund Income.

Paid to sundry parties, in accordance with the will of the late Charles A. Read, income re- ceived from the trustees, upon investments, as per item No. 38 of expenses		\$1,686 96
---	--	------------

Salaries.

Appropriation		\$18,099 00
Heman M. Burr, Mayor	\$1,000 00	
Isaac F. Kingsbury, city clerk	2,000 00	
John A. Kenrick, city treasurer and collector of taxes	3,000 00	
Moses Clark, Jr., assistant treasurer and deputy collector	1,800 00	
Benjamin F. Otis, city auditor	2,000 00	
Winfield S. Slocum, city solicitor	1,250 00	
Joseph D. Wellington, city messenger	1,100 00	
John C. Brimblecom, assistant city clerk	384 00	
Miss Caroline M. Jordan, assistant to city clerk	236 00	
Theo. A. Fleu, assistant to city auditor	500 00	
<i>Amounts carried forward</i>	\$13,270 00	\$18,099 00

<i>Amounts brought forward</i>	. \$13,270 00	\$18,099 00
Wm. S. French, Milk inspector	. 250 00	
Joseph D. Wellington, sealer of weights and measures	. . . 75 00	
Samuel M. Jackson, chairman board of assessors	 900 00	
Howard B. Coffin, assessor	. . 900 00	
Charles A. Miner, assessor and clerk of board	 1200 00	
R. O. Evans, assistant assessor, Ward 1	 116 00	
A. A. Savage, assistant assessor, Ward 2	 196 00	
W. P. Plimpton, assistant assessor, Ward 3	 149 00	
Bernard Earley, assistant assessor, Ward 4	 356 00	
William E. Clarke, assistant assessor, Ward 5	 142 00	
George Warren, assistant assessor, Ward 6	 124 00	
Edward W. Cobb, assistant assessor, Ward 7	 262 00	
John C. Brimblecom, clerk of Com- mon Council	 200 00	
Total, as per item No. 39 of expenses		\$18,140 00
Amount overdrawn, transferred into excess and deficiency account		\$41 00

Evening Schools.

Appropriation		\$1 000 00
George M. Weed, teacher	\$75 00	
M. Ethelyn Stearns, teacher . .	37 50	
Jennie A. Preston, teacher . . .	37 50	
Adrienne V. Bunker, teacher . .	37 50	
Florence Sampson, teacher . . .	37 50	
Jennette A. Grant, teacher . . .	33 00	
Alonzo R. Weed, teacher	63 00	
Gilbert Wright, drawing teacher .	66 00	
Alice A. Macomber, drawing teacher .	50 00	
Georgia L. Norton, drawing teacher .	30 00	
Mary Welch, janitor	18 75	
Joshua L. Randall, janitor . . .	16 50	
Newton & Watertown Gas Light Co., gas	57 00	
Higgins & Nickerson, material and labor	48 15	
J. E. Trowbridge, material and labor .	1 90	
Thorpe, Adams Mfg. Co., supplies .	41 01	
C. Strout & Sons, supplies . . .	2 88	
H. A. Sherman, supplies	1 56	
Fort Hill Embossing & Printing Co., printing	3 50	
Stephen F. Cate, use of team . . .	1 50	
Total, as per item No. 40 of expenses		\$659 75
Balance unexpended, transferred into excess and deficiency account		\$340 25

SCHOOLS.

GENERAL APPROPRIATION, EDUCATIONAL DEPARTMENT.

General appropriation for schools	\$106,215 00	
Received from dog tax for 1888,		
by order of City Council	2,708 52	
	\$108,923 52	
Transferred to appropriation for school		
school incidentals by order of City		
Council	700 00	
		\$108,223 52

EXPENDITURES IN DETAIL.

Thomas Emerson, superintendent	\$2,880 00	
Thomas Emerson, secretary school		
board	300 00	
	\$3,180 00	

High School.

Edwin J. Goodwin, head master	3,000 00	
Ezra W. Sampson, master	2,200 00	
S. Warren Davis, assistant master	2,000 00	
Andrew J. George, assistant master	1,800 00	
George L. Chandler, assistant master	1,612 50	
Marguerite W. Abbott, assistant	1,200 00	
Maybel P. Davis, assistant	1,000 00	
Emma F. Johnson, assistant	1,000 00	
Frances P. Owen, assistant	968 75	
Josie A. Davis, assistant	918 75	

Amounts carried forward \$18,880 00 \$108,223 52

<i>Amounts brought forward</i>	\$18,880 00	\$108,223 52
Minerva E. Leland, assistant . . .	968 75	
Lida P. Underhill, assistant . . .	700 00	
Anna W. Burbank, assistant . . .	270 00	
	\$20,818 75	

Special Teachers.

Adeline V. Pond, drawing and writing	\$625 00	
Ada L. Collins, drawing and writing .	337 50	
Alice E. Macomber, drawing . . .	96 00	
Jennie E. Ireson, calisthenics and elocution	500 00	
Horace M. Walton, instruction in music	1,500 00	
George H. Benyon, military drill .	400 00	
Ellen L. Bond, sewing	450 00	
Julia Grant, sewing	450 00	
Sarah L. Dix, sewing	225 49	
	\$25,402 74	

Bigelow School.

H. Chapin Sawin, master . . .	\$1,900 00	
Martha M. Bakeman, first assistant .	750 00	
Annie E. George, assistant . . .	600 00	
S. Louise Shelton, assistant . . .	375 00	
Emily J. Dyer, assistant	600 00	
Mary R. Putney, assistant	255 00	
Elizabeth Ayles, assistant	600 00	
Florence H. Griffin, assistant . . .	518 75*	

<i>Amounts carried forward</i>	\$31,001 49	\$108,223 52
--------------------------------	-------------	--------------

<i>Amounts brought forward,</i>	\$31,001 49	\$108,223 52
Ellen B. Prime, assistant . . .	225 00	
Ella M. Donkin, assistant . . .	206 25	
Sarah F. Stuntz, assistant . . .	104 06	
	\$31,536 80	

Underwood School.

Charlotte E. Sewall, principal . . .	\$750 00	
Ada L. Donkin, assistant . . .	600 00	
Annie L. Wood, assistant . . .	600 00	
Josephine W. Littlefield, assistant . . .	600 00	
	\$34,086 80	

Lincoln School.

Nellie B. Rand, principal . . .	\$750 00	
Mary E. Wall, assistant . . .	600 00	
	\$35,436 80	

Eliot School.

George G. Edwards, master . . .	\$1,900 00	
H. Augusta Millard, first assistant . . .	539 07	
Louise W. Clelland, assistant . . .	600 00	
Ellen B. Prime, assistant . . .	375 00	
Anna L. Hazelton, assistant . . .	225 00	
Jennie P. Morehouse, assistant . . .	112 49	
Louise W. Burbank, assistant . . .	131 25	

<i>Amounts carried forward</i>	\$39,319 61	\$108,223 52
--------------------------------	-------------	--------------

Amounts brought forward \$39,319 61 \$108,223 52

Jackson School.

Eliza J. Lovely, principal . . .	\$750 00
Lottie E. Stearns, assistant . . .	600 00
Martha A. Lovely, assistant . . .	568 75
Ella M. Donkin, assistant . . .	312 50
Annie A. Early, assistant . . .	412 50
Gertrude G. Tewksbury, assistant . . .	75 00
Lillian E. Rogers, assistant . . .	187 50
	\$42,225 86

Adams School.

William A. Spinney, master . . .	\$1,900 00
Abby I. Fiske, first assistant . . .	750 00
Estella M. Haynes, assistant . . .	75 00
Sarah A. Whitney, assistant . . .	523 75
Mary A. Wellington, assistant . . .	600 00
Angelia A. Smith, assistant . . .	600 00
Gertrude G. Tewksbury, assistant . . .	525 00
Mary J. Billings, assistant . . .	37 50
	\$47,237 11

Clafin School.

Herbert F. Sylvester, master . . .	\$1,900 00
Anna C. Merritt, first assistant . . .	750 00
Lydia A. Brierly, assistant . . .	600 00
Ellen M. Horrigan, assistant . . .	375 00
Ellen S. Tewksbury, assistant . . .	600 00
Effie M. Herrick, assistant . . .	288 75

Amounts carried forward \$51,750 86 \$108,223 52

<i>Amounts brought forward</i>	\$15,750 86	\$108,223 52
Mary M. Morse, assistant . .	55 00	
J. Angeline Smith, assistant . .	187 50	
	\$51,993 36	

Peirce School.

Levi F. Warren, master . . .	\$1,900 00	
Sarah A. Warren, first assistant . .	750 00	
Eliza E. Simmons, assistant . .	600 00	
Nora Taft, assistant . . .	568 75	
Alice M. Small, assistant . . .	600 00	
Nellie H. Rogers, assistant . .	600 00	
Martha M. Dix, assistant . . .	292 50	
	\$57,304 61	

Davis School

M. Alice Warren, principal . .	\$750 00	
Helen S. Tolman, assistant . .	375 00	
Sarah E. Foster, assistant . .	600 00	
Alice M. Wormwood, assistant . .	568 75	
Ada P. Zeigler, assistant . . .	165 00	
Theodora A. Chase, assistant . .	33 75	
	\$59,797 11	

Franklin School.

Elisabeth F. Paddock, principal . .	\$750 00	
Alice M. Nelson, assistant . .	518 75	
Clara H. Thompson, assistant . .	600 00	
Margaret A. Mague, assistant . .	600 00	

<i>Amounts carried forward</i>	\$62,265 86	\$108,223 52
--------------------------------	-------------	--------------

Amounts brought forward \$62,265 86 \$108,223 25

Barnard School.

Calista S. Wood, principal	.	.	\$281 25
Anna L. Hazelton, principal	.	.	351 56
Susan E. Copeland, assistant	.	.	600 00
Lizzie F. Jones, assistant	.	.	600 00
			\$64,098 67

Williams School.

John O. Godfrey, master	.	.	\$1,770 00
Elizabeth A. Pinnock, first assistant	.	.	300 00
Helen S. Tolman, first assistant	.	.	281 25
Harriette S. Bachelder, assistant	.	.	397 50
Ann B. Smith, assistant	.	.	600 00
Mary Noble, assistant	.	.	375 00
Edith A. Matteson, assistant	.	.	600 00
Dora A. Allen, assistant	.	.	600 00
Florence L. Wilson, assistant	.	.	510 00
Celia Battles, assistant	.	.	187 50
Kate Glynn, assistant	.	.	82 50
Sarah E. Stuntz, assistant	.	.	79 69
Nellie P. Warren, assistant	.	.	112 50
Mabel A. Langley, assistant	.	.	72 00
			\$70,066 61

Hamilton School.

Luther E. Leland, master	.	.	\$1,900 00
Anna G. Swain, first assistant	.	.	750 00
Ellen M. Leland, assistant	.	.	600 00
Hilma M. Ekman, assistant	.	.	420 00

Amounts carried forward \$73,736 61 \$108,223 52

<i>Amounts brought forward</i>	\$73,736 61	\$108,223 52
Blanche Henshaw, assistant . . .	75 00	
M. Ethelyn Stearns, assistant . . .	22 50	
	\$73,834 11	

Prospect School.

Charles E. Hussey, master . . .	\$1,900 00	
Martha L. Perkins, first assistant . . .	750 00	
Ella F. Crooker, assistant . . .	600 00	
Lucy A. Hayward, assistant . . .	600 00	
Mary P. Fanning, assistant . . .	600 00	
Linda E. Nickelson, assistant . . .	518 75	
	\$78,802 86	

Hyde School.

George A. Moore, master . . .	\$1,900 00	
Charlotte E. Cameron, first assistant . . .	750 00	
Gertrude Blackmer, assistant . . .	600 00	
Harriet J. Brooks, assistant . . .	568 75	
Flora M. Stuart, assistant . . .	518 75	
N. Grace Gould, assistant . . .	600 00	
	\$83,740 36	

Mason School.

Albert L. Harwood, master . . .	\$1,900 00	
Ellen S. Baker, first assistant . . .	50 00	
Maria F. Wood, assistant . . .	600 00	
Anna C. Bush, assistant . . .	150 00	
Mary Tenney, assistant . . .	600 00	
Roberta J. Hardie, assistant . . .	600 00	
Georgia P. Bucknam, assistant . . .	600 00	

<i>Amounts carried forward</i>	\$88,940 36	\$108,223 52
--------------------------------	-------------	--------------

<i>Amounts brought forward</i>	\$88,940 36	\$108,223 52
Isabel N. Gladwin, assistant . . .	187 50	
Della Noyes, assistant . . .	225 00	
Sarah E. Stuntz, assistant . . .	150 00	
	\$89,502 86	

Rice School.

Mary E. Mason, principal . . .	\$750 00	
Margaret Martin, assistant . . .	600 00	
Adelaide L. Thompson, assistant . . .	420 00	
S. Emma Thompson, assistant . . .	408 75	
Myra A. Fletcher, assistant . . .	168 75	
Jennie P. Baker, assistant . . .	150 00	
M. Ethelyn Stearns, assistant . . .	78 75	
	\$92,079 11	

Oak Hill School.

Louise N. Burbank, principal . . .	\$618 75	
Theodora A. Chase, principal . . .	87 50	
	\$92,785 36	

Thompsonville School.

Helen A. Davis, principal . . .	\$750 00	
	\$93,535 36	

Janitors.

John Cummings, High . . .	\$953 00	
Michael Powers, High . . .	140 00	
C. R. Young, Bigelow and Underwood	768 00	
Honora Sweeney, Lincoln . . .	144 00	

<i>Amounts brought forward</i>	\$95,540 36	\$108,223 52
--------------------------------	-------------	--------------

Amounts brought forward \$95,540 36 \$108,223 25

Mary Welch, Eliot and Jackson . . .	441 00
James H. Whalen, Eliot and Jackson . .	147 00
Mary Delaney, Adams	360 00
John Dorney, Claflin	360 00
Thomas Johnson, Peirce and Davis . .	528 00
James H. Proctor, Davis	66 00
George W. Cross, Peirce	30 00
Bridget Cox, Franklin	264 00
John Woody, Barnard	264 00
Martin Walsh, Williams	456 00
James H. Boit, Hamilton	276 00
Joshua L. Randall, Prospect	372 00
James C. Newcomb, Hyde	90 00
George M. Geyer, Hyde	270 00
Albert C. Marston, Mason and Rice . .	696 00
William E. Wiswall, Oak Hill	108 00
John A. Hahn, Thompsonville	96 00

\$100,364 36

Fuel.

Albert Brackett & Son, coal	\$3569 55
C. F. Eddy & Co., coal, etc.	2168 86
J. W. Mitchell, coal	1426 57

Total, as per item No. 41 of expenses \$107,529 34

Balance unexpended, transferred into excess and
deficiency account \$694 18

School Incidentals.

Appropriation	\$10,000 00	
Transferred from general appropria- tion for schools, by order of City Council	700 00	
		\$10,700 00
Thorp & Adams Mfg. Co., books, etc .	\$1,490 03	
Wm. Ware & Co., books	487 53	
Ginn & Co., books	312 36	
Harper Brothers, books	250 31	
Willard Small, books	226 26	
J. D. F. Brooks, binding books .	224 38	
F. M. Ambrose, books	160 10	
D. Appleton & Co., books	137 65	
Edward E. Babb & Co., books . .	108 37	
Lee & Shepard, books	99 73	
Carl Schoenhoff, books	85 77	
Leach, Shewall & Sanborn, books .	76 18	
A. S. Barnes & Co., books	64 61	
D. C. Heath & Co., books	57 83	
Boston School Supply Co., books .	49 36	
A. C. Stockin, books	46 63	
Warren P. Adams, books	40 18	
Harrison, Hume & Co., books . .	35 26	
Silver Burdette & Co., books . . .	30 30	
Charles Scribner's Sons, books . .	27 70	
Interstate Publishing Co., books .	27 26	
A. A. Waterman, books	24 56	
Roberts Brothers, books	22 50	
<i>Amounts carried forward</i>	\$4,084 86	\$10,700 00

<i>Amounts brought forward</i>	\$4,084 86	\$10,700 00
Allyn & Bacon, books	18 90	
Houghton, Mifflin & Co., books . .	16 38	
Iveson, Blakeman & Taylor, books . .	14 30	
Van Antwerp, Bragg & Co., books . .	10 95	
Charles W. Sever, books	4 80	
Charles H. Kilborn, books	3 75	
Drew, Allis & Co., books	2 00	
Martin C. Laffie, truant officer . . .	425 27	
Lawrence Industrial School, support of truants	156 61	
Water department, use of water . .	779 63	
Newton & Water Gas Lt. Co., gas . .	100 80	
Newton Odorless Excavating Co., cleaning cesspool	145 00	
W. H. Mague, cleaning cesspool . .	122 50	
N. E. Telephone & Telegraph Co. rentals	68 70	
M. E. Sherwood, clerical assistance .	204 00	
Thomas Emerson, travelling expenses	91 62	
Ellen L. Bond, travelling expenses .	49 48	
Julia Grant, travelling expenses . .	16 46	
Martha M. Dix, travelling expenses .	14 86	
J. H. Daniels, diplomas	115 90	
George E. Bridges, taking census of children from 5 to 15	89 00	
Henry M. Burr & Co., ribbon	24 01	
Maitland's Brockton Band, music . .	80 00	
A. G. Whitcomb, furniture	556 57	
E. L. & F. S. Rollins, shades	54 98	
Charles Hopkins, furniture	5 50	
<i>Amounts carried forward</i>	\$7,256 83	\$10,700 00

<i>Amounts brought forward</i>	\$7,256 83	\$10,700 00
H. W. Calder, furniture	5 00	
R. Hollings & Co., shades	5 50	
The Newton Graphic, printing . . .	161 35	
Newton Journal, printing	97 00	
George H. Pratt & Co., printing . .	57 00	
Fort Hill Embossing & Printing Co. printing	33 00	
Gustave Weinscheuk, printing . . .	3 50	
George H. Barton, cash expenses . .	37 00	
A. J. George, cash expenses	6 25	
Universal Book Protector Mfg. Co., book covers	26 38	
Stephen F. Cate, use of teams	18 00	
H. C. Daniels, use of teams	2 80	
Central Stables, use of teams	2 50	
F. H. Hunting, expressage	30 12	
Neil McGinness, expressage	4 45	
L. D. Whittemore, care of clocks . .	118 00	
J. A. Swasey, material and labor . .	357 36	
Higgins & Nickerson, material and labor	123 35	
O. B. Leavitt, material and labor . .	97 48	
Milo Lucas, material and labor . . .	87 95	
Thomas Johnson, material and labor .	40 25	
James Dorney, material and labor . .	35 65	
Henry F. Ross, material and labor . .	26 66	
John J. O'Brien, material and labor .	20 40	
J. F. Horrigan, material and labor . .	18 96	
John Dorney, material and labor . .	16 00	
Ralph Davenport, material and labor .	15 75	
<i>Amounts carried forward</i>	\$8,704 49	\$10,700 00

<i>Amounts brought forward</i>	\$8,704 49	\$10,700 00
Sidney G. Steeves, material and labor	13 70	
D. H. McWain, material and labor	10 38	
Henry F. Wellington, material and labor	8 16	
G. M. D. Fernald, material and labor	7 70	
H. S. Williams, material and labor	5 40	
W. T. Vose, material and labor	4 50	
J. R. Harbeson, material and labor	4 25	
Isaac Smith, material and labor	3 55	
Mrs. Amory Hall, material and labor	3 50	
J. C. Newcomb, material and labor	3 50	
John Beular, material and labor	2 25	
George W. Ulmer, material and labor	2 00	
John B. Turner, postage stamps, etc.	51 00	
John C. Haynes & Co., instruments, etc.	7 61	
George H. Brown, tuning pianos	26 75	
George S. Perry, supplies	1,038 14	
Thomas Hall, supplies	171 37	
W. C. Gaudelet, supplies	93 38	
Dennison Mfg. Co., supplies	82 75	
Educational Supply Co., supplies	61 00	
Peabody & Whitney, supplies	60 45	
W. F. Soule, supplies	22 50	
O. F. Lucas, supplies	21 46	
John V. Sullivan, supplies	17 44	
Edward F. Jenison, supplies	16 31	
Frost & Adams, supplies	15 84	
Dame, Stoddard & Kendall, supplies	10 15	
R. H. White & Co., supplies	7 50	
<i>Amounts carried forward</i>	\$14,477 03	\$10,700 00

<i>Amounts brought forward,</i>	\$10,477 03	\$10,700 00
George Frost & Co., supplies . . .	7 30	
C. Strout & Sons, supplies . . .	4 48	
Francis Murdock & Co., supplies . . .	3 90	
Claffin, Larrabee & Co., supplies . . .	3 78	
I. R. Stevens, supplies . . .	3 55	
Wilson, Larrabee & Co., supplies . . .	3 23	
Eastern Educational Bureau, supplies	3 15	
Sarah L. Dix, supplies . . .	3 08	
E. Moulton, supplies . . .	2 21	
C. O. Tucker & Co., supplies . . .	2 00	
Sundry small bills . . .	13 58	

Total as per item No. 42 of expenses.	\$10,527 29
---------------------------------------	-------------

Balance unexpended transferred into excess and deficiency account.	\$172 71
---	----------

Sanitary Improvement of City Hall (Special Appropriation.)

Smith & Anthony Stove Co., material and labor	\$2,238 70
J. W. Conroy & Son, material and labor	61 30

Total, as per item No. 43 of expenses	\$2,300 00
---------------------------------------	------------

Sewerage—Special Appropriation.

Appropriation	\$3,000 00
H. D. Woods, et al for service making surveys, plans, etc., as per item No. 44 of expenses .	117 84

Balance unexpended, transferred into treasury	\$2,882 16
---	------------

Sinking Fund—City Debt.

Appropriation	\$23,000 00
Amount paid commissioners of sinking fund, as per item No. 45 of expenses	23,000 00

Sinking Fund—School Loan.

Appropriation	\$4,000 00
Amount paid commissioners of sinking fund, as per item No. 46 of expense	4,000 00

Sinking Fund—Water Bonds.

Appropriation	\$22,000 00
Amount paid commissioners of sinking fund, as per item No. 47 of expenses	22,000 00

State Aid.

Appropriation	\$1,000 00
Interest on city loans temporary	200 00
	\$1,200 00

William Watson	72 00
Joshua V. Ramsdell	60 00
Mary Allen	48 00
Anna C. Boyd	48 00
Mary Duran	48 00
Thomas Dennon	48 00
Sarah Fell	48 00
Catherine McAleer	48 00
Agnes Myers	48 00
Mary A. Mann	48 00
Hugh Hamill	48 00
Almira Messer	48 00
Ellen Russell	48 00

<i>Amounts carried forward</i>		
	\$660 00	\$1,200 00

<i>Amounts brought forward</i>	\$660 00	\$1,200 00
Bridget A. Wright	48 00	
Caroline Williams	48 00	
Amelia M. Young	48 00	
Thomas Probert	46 00	
Susan A. Nutting	44 00	
James Delaney	36 00	
Sarah E. Bowker	32 00	
Albert C. Dearborn	33 00	
Joseph Bergeron	30 00	
Sarah W. White	24 00	
Thomas Dolan	20 00	
Elizabeth A. McCrillis	20 00	
Elizabeth Ross	20 00	
George Hutchinson	16 00	
Timothy Kennedy	4 50	

Total, as per item No. 48 of expenses		\$1,129 50
---------------------------------------	--	------------

Balance unexpended, transferred into excess and deficiency account		70 50
---	--	-------

Street Light Department.

Appropriation	\$27,000 00
Transferred to appropriation for elections and registration of voters	1,000 00
Transferred to appropriation for miscellaneous expenses	1,000 00
	\$25,000 00
<i>Amount carried forward</i>	
	\$25,000 00

<i>Amount brought forward</i>		\$25,000 00
Newton & Watertown Gas Light Co.,		
for gas and care of 754 lamps	.\$8,970 58	
For 74 arc lights	7440 41	
For oil and care of 373 lamps	5073 86	
For 176 Incandescent lamps	378 01	
For lighting Auburndale subway	65 80	
For repairs	187 71	
Stephen F. Cate, use of team	10 00	
F. H. Humphrey, agent, repairing lanterns	7 06	
Bemis & Jewett, painting lamp post	1 00	
Total, as per item No. 49 of expenses		\$22,134 43
Balance unexpended, transferred into excess and deficiency account		2,865 57

Taxes 1889 -- County.

Amount assessed for county tax	.\$26,406 19
Amount paid to county treasurer, as per item No. 50 of expenses	26,406 19

Taxes 1889 -- National Bank.

Amounts paid to Commonwealth of Massachu- setts for non-residents of Newton, National Bank shares, as per item No. 51 of expenses	\$1,544 52
---	------------

Taxes 1889 -- State.

Amount assessed for State tax	.\$34,060 00
Amount paid to State treasurer, as per item No. 52 of expenses	34,060 00

Temporary Loans.

March 26, paid National Bank of the Republic	\$50,000 00
April 1, paid National Bank of Redemption .	17,000 00
May 1, paid West Newton Savings Bank . .	3,000 00
June 6, paid Suffolk Savings Bank . .	5,000 00
June 6, paid National Exchange Bank . .	5,000 00
June 6, paid National Bank of Redemption .	15,000 00
July 8, paid Suffolk Savings Bank . . .	50,000 00
Nov. 1, paid New England Trust Co. . .	80,000 00
Nov. 1, paid National Bank of the Republic .	10,000 00
Nov. 2, paid National Bank of the Republic .	30,000 00
Nov. 2, paid Suffolk Savings Bank . . .	20,000 00
Nov. 5, paid National Hide & Leather Bank .	10,000 00
Nov. 5, paid National Bank of Redemption .	10,000 00
Nov. 5, paid Suffolk Savings Bank . . .	125,000 00
Nov. 30, paid Trustees of the Read Fund . .	39,700 00
Total, as per item No. 53 of expenses	\$469,700 00

Water Construction.

Total expenditure to December 31, 1888 .	\$1,168,947 61
Pay-rolls of laborers	\$15,341 49
Warren Foundry & Machine Co., iron	
pipe	10,720 73
National Meter Co. meters, etc .	2,964 50
Artemas Wiswall, expenses and cash	
paid for purchase of land in Ned-	
ham	1,840 49
Charles Carr, hydrants, etc. . .	1,509 45
Chadwick Lead Works, lead pipe .	1,414 40
Davis & Farnum Mfg. Co., castings .	1,419 13
<i>Amounts carried forward</i>	\$35,210 19 \$1,168,947 61

<i>Amounts brought forward</i>	\$35,210 19	\$1,168,947 61
City Iron Foundry, gate boxes . . .	1,068 31	
W. H. Ward & Co., supplies . . .	1,064 76	
Coffin Valve Mfg. Co., valves . . .	1,062 29	
Hersey Meter Co., meters . . .	955 55	
Smith & Anthony Stove Co., supplies	846 54	
Chapman Valve Mfg. Co., water gates	708 13	
National Tube Works, iron pipe . .	703 50	
J. H. Cunningham, iron pipe . . .	373 10	
P. A. McVicar, new wagon, etc. . .	179 15	
Charles P. Horton & Co., test borings	103 50	
Gilkey & Stone, lumber	82 93	
Crosby Steam Gage & Valve Mfg. Co., gages etc	80 50	
S. P. Jones, recording gage	75 00	
Waltham Water Works, iron pipe . .	65 86	
American Fire Hose Mfg. Co., hose .	60 00	
Edson Mfg. Co., hose	27 18	
American Powder Mills, powder . .	131 37	
George H. Sampson, powder	40 35	
Sewall & Day Cordage Co., packing .	50 24	
Jenkins Brothers, packing	15 11	
Parker Holmes & Co., rubber boots .	65 87	
H. C. Jackson & Co., rubber boots .	43 00	
Stoughton Rubber Co., rubber boots .	6 00	
H. M. Darling & Co., tools, etc. . .	56 16	
Boston & Albany R. R. Co., freight .	1,190 82	
Timothy Stuart, labor, men and teams	523 03	
John Joyce, labor, and teams	222 25	
J. C. Whitney, services as inspector .	519 39	
Miss E. D. Hinkley, clerical services	108 00	
<i>Amounts carried forward</i>	\$45,638 07	\$1,168,947 61

<i>Amounts brought forward</i>	\$45,638 07	\$1,168,947 61
C. Atherton Hicks, survey and plans .	36 00	
A. M. Miller, services type writer .	25 00	
Maria A. Wilson, services . .	18 65	
George S. Rice, professional services .	4 25	
A. O. Doane, services . . .	3 26	
Charles B. Baneroft, board of men .	132 88	
N. W. Tupper, grain . . .	284 64	
J. P. Bent, hay	66 56	
Charles A. Cole, blacksmithing .	245 28	
A. Danforth, agent, blacksmithing .	111 64	
B. F. Barlow, blacksmithing . .	111 36	
J. C. Farrar, blacksmithing . .	90 99	
S. D. Keegan, blacksmithing . .	45 62	
John W. Scott, blacksmithing . .	34 51	
Murray & Farrell, blacksmithing .	20 74	
Thomas Belger, blacksmithing . .	18 06	
F. H. Hunting, expressage . .	61 98	
Crowley's Express, expressage . .	6 60	
Dyson's Express, expressage . .	3 85	
A. F. Harrington, use of teams . .	162 00	
Stephen F. Cate, use of teams . .	135 33	
G. S. & W. F. Howe, use of teams .	20 19	
H. A. & F. B. Spear, use of teams .	4 00	
Madison Bunker, care of sick horses .	35 00	
G. F. Russell, board of horses . .	6 07	
Waldo Brothers, cement . . .	16 00	
C. F. Eddy & Co., cement . .	3 60	
Dr. O. E. & W. O. Hunt, medical at- tendance	10 00	
Dr. D. Waldo Stearns, medical at- tendance	6 00	
<i>Amounts carried forward</i>	\$47,358 14	\$1,168,947 61

<i>Amounts brought forward</i>	\$47,358 14	\$1,168,947 61
Albert F. Noyes, sundry cash expenses	302 29	
J. C. Whitney, sundry cash expenses	34 95	
Edw. W. Cate, sundry cash expenses	28 88	
H. N. Hyde, Jr., sundry cash expenses	4 02	
Newton & Watertown Gas Lt. Co., coke	18 95	
Albert Brackett & Son, coal . . .	4 00	
John Downs, crown meter . . .	16 00	
Alden Speare's Sons & Co., oil . . .	10 55	
Daniel Russell, material and labor .	636 59	
H. W. Leach & Co., material and labor	222 75	
Higgins & Nickerson, material and labor	79 13	
E. W. Hodgdon, material and labor .	51 26	
M. Frank Lucas, material and labor .	35 91	
Pettee Machine Works, material and labor	29 62	
M. C. Higgins, material and labor .	15 29	
L. H. Cranitch, material and labor .	12 90	
W. H. French & Co., material and labor	8 85	
A. S. Morss, material and labor .	8 10	
O. B. Leavitt, material and labor .	7 18	
P. Y. Hoseason, material and labor .	6 00	
Isaac Smith, material and labor .	5 75	
Newton Machine Co., material and labor	4 52	
F. H. Humphrey, agt., material and labor	3 25	
A. W. Snow, material and labor .	2 00	
Walworth Mfg. Co., supplies . .	283 50	
<i>Amounts carried forward</i>	\$49,190 38	\$1,168,947 61

<i>Amounts brought forward,</i>	\$49,190 38	\$1,168,947 61
Parker & Wood, supplies . . .	80 89	
G. F. Blake Mfg. Co., supplies . .	65 00	
Park Brothers & Co. limited, supplies	48 94	
Butts & Ordway, supplies . . .	33 40	
Dodge, Haley & Co., supplies . .	31 07	
Star Brass Mfg. Co., supplies . .	21 00	
C. W. Morehouse, supplies . . .	17 34	
Conant Rubber Co., supplies . .	17 30	
Page & Coffin, supplies . . .	16 26	
Sherburne & Co., supplies . . .	14 25	
M. D. Jones & Co., supplies . .	13 85	
E. Daniels, supplies	13 00	
Chandler & Farquhar, supplies . .	12 81	
H. E. Woodberry, supplies . . .	13 28	
Bigelow & Dowse, supplies . . .	11 20	
Cobb, Bates & Yerxa, supplies . .	11 15	
A. A. Savage, supplies	11 16	
Charles Miner, supplies	10 50	
S. G. Dow, supplies	10 50	
Joseph Lee, supplies	10 20	
H. W. Wellington, supplies . . .	8 55	
Gilchrist & Gorham, supplies . .	6 83	
Henry F. Payne, supplies	6 00	
Dean Foster & Co., supplies . . .	5 00	
Perrin, Seamans & Co., supplies . .	5 00	
Thomas Hall, supplies	4 25	
A. G. Smalley & Co., supplies . .	2 55	
Sundry small bills	12 67	
Total as per item No. 54 of ex- penses	\$49,704 33	
<i>Amounts carried forward</i>	\$49,704 33	\$1,168,947 51

Amounts brought forward . \$49,704 33 \$1,168,947 61

RECEIVED.

From Vacuum Oil Co., empty oil barrels, as per item No. 49 of receipts .	\$7 60	
From Blake Brothers & Co., premium on \$40,000, City of Newton Water Bonds as per item No. 28 of receipts .	4,964 00	
From Blake Brothers & Co., accrued interest on \$40,000, City of Newton Water Bonds as per item No. 17 of receipts.	244 45	
	—————	5,216 05
		—————
		44,488 28
		—————
Total expenditure to Dec. 31, 1889.		\$1,213,435 89

Water Maintenance.

Appropriation	\$14,800 00
Albert S. Glover, services as Water Registrar	\$1,811 66
Albert S. Glover, incidental cash ex- penses	62 25
H. N. Hyde, Jr., services as superin- tendent	1,709 57
H. N. Hyde, Jr., incidental cash ex- penses	25 97
	—————
<i>Amounts carried forward</i>	\$3,609 45 \$14,800 00

<i>Amounts brought forward</i>	\$3,609 45	\$14,800 00
J. C. Whitney, services as inspector	778 48	
J. C. Whitney, incidental cash expenses	3 06	
Thomas Coughlan, services as engineer	1,208 00	
Miss E. D. Hinckley, clerical services	526 29	
Miss E. D. Hinckley, incidental cash expenses	3 90	
A. S. Glover, clerical assistance .	53 50	
M. H. Taylor, services type writing .	12 05	
Pay rolls of laborers	4,997 05	
J. W. Mitchell, coal	2,450 71	
Albert Brackett & Son, coal	41 32	
John S. Nason, one horse and exchange of horse	290 00	
N. W. Tupper, grain	66 59	
J. P. Bent, hay	22 19	
Madison Bunker, care of sick horses .	11 66	
Wyckoff, Seamans & Benedict, type writer	125 00	
Town of Needham, taxes on land .	54 84	
Hartford Steam Boiler Inspection and Insurance Co., policy of insurance	50 00	
T. Albert Ward, use of land	50 00	
T. Albert Ward, care of reservoir .	50 00	
Waite, Williams & Co., oil	70 88	
Seecomb, Kehew & Sons, oil	52 00	
Alden Speare's Sons & Co, oil . . .	10 03	
Waldo Brothers, cement	23 20	
<i>Amounts carried forward</i>	\$14,560 20	\$14,800 00

<i>Amounts brought forward</i>	\$14,560 20	\$14,800 00
C. F. Eddy & Co., cement	2 05	
G. B. Randall, material and labor	93 70	
Charles Carr, material and labor	53 02	
Thomas F. Swan, material and labor	24 03	
J. F. Horrigan, material and labor	22 56	
E. W. Hodgson & Son, material and labor	16 78	
O. B. Leavitt, material and labor	10 76	
Chapman Valve Mfg. Co., material and labor	6 73	
Pettee Machine Works, material and labor	5 50	
P. Y. Hoseason, material and labor	2 00	
American Fire Hose Mfg. Co., hose	30 50	
Sherburne & Co., cotton waste	28 02	
M. Frank Lucas, stakes	7 65	
J. A. & W. Bird & Co., black varnish	6 00	
Timothy Stuart, labor, men and teams	118 52	
S. F. Cate, use of teams	50 67	
A. F. Harrington, use of teams	28 00	
H. C. Daniels, use of teams	6 00	
Charles A. Cole, blacksmithing	42 25	
B. F. Barlow, blacksmithing	20 77	
Thomas Belger, blacksmithing	7 50	
Murray & Farrell, blacksmithing	5 41	
P. A. McVicar, blacksmithing	4 72	
J. C. Farrar, blacksmithing	2 58	
J. Q. Harrington, filing saws	3 00	
Newton & Watertown Gas Light Co., gas	9 60	
<i>Amounts carried forward</i>	<u>\$15,168 52</u>	<u>\$14,800 00</u>

<i>Amounts brought forward</i>	\$15,168 52	\$14,800 00
Charles H. Stacy, telegrams . . .	6 64	
John B. Turner, stamps . . .	3 50	
C. H. Jenison, expressage . . .	4 30	
Crowley's Express, expressage . . .	3 00	
F. H. Hunting, expressage . . .	2 47	
W. H. Ward & Co., supplies . . .	63 09	
H. E. Woodberry, supplies . . .	30 93	
A. A. Savage, supplies . . .	17 29	
H. W. Wellington, supplies . . .	16 15	
Parker & Wood, supplies . . .	14 77	
Walworth Mfg. Co., supplies . . .	12 89	
John Ayles, supplies . . .	10 00	
C. W. Morehouse, supplies . . .	8 40	
Henry F. Jenks, supplies . . .	8 40	
B. Billings, supplies . . .	9 15	
Newton Machine Co., supplies . . .	7 04	
Edward Kendall & Sons, supplies . . .	6 00	
Edson Mfg. Co., supplies . . .	4 28	
Henry M. Darling & Co., supplies . . .	3 38	
C. Strout & Sons, supplies . . .	2 68	
W. Rand, supplies . . .	2 33	
Standard Chemical Mfg. Co., supplies . . .	2 00	
G. F. Russell, board of horse . . .	2 03	
Sundry small bills . . .	11 53	
Total, as per item No. 55 of expenses		\$15,420 78
Amount overdrawn, transferred into excess and deficiency account		\$620 78

Water Meters and Service Pipe.

Appropriation		\$3,500 00
Pay rolls of laborers	\$1,986 63	
Chadwick Lead Works, lead pipe, etc.	580 44	
National Tube Works, pipe	152 72	
J. C. Whitney, services as inspector	107 68	
N. W. Tupper, grain	133 08	
J. P. Bent, hay	44 38	
Union Water Meter Co., repairing meters	86 00	
National Meter Co., repairing meters	39 50	
J. C. Whitney, sundry cash expenses	7 40	
Madison Bunker, care of sick horses	23 34	
B. F. Barlow, blacksmithing	36 09	
P. A. McVicar, blacksmithing	9 43	
Murray & Farrell, blacksmithing	8 12	
A. Danforth, agent, blacksmithing	2 86	
Robert Harrison, serving notices	5 50	
G. F. Russell, board of horse	4 04	
Timothy Stuart, labor, men and teams	2 53	
F. H. Hunting, expressage	2 50	
Boston & Albany R. R. Co., freight	2 19	
E. W. Hodgson, material and labor	33 51	
P. Y. Hoseason, material and labor	4 00	
W. H. Ward & Co., supplies	230 64	
Walworth Mfg. Co., supplies	7 37	
Parker & Wood, supplies	6 85	
Page & Coffin, supplies	3 85	
Butts & Ordway, supplies	2 05	
<i>Amounts carried forward</i>	\$3,522 70	\$3,500 00

<i>Amounts brought forward</i>	\$3,522 70	\$3,500 00
Jenkins Bros., supplies	2 32	
Sundry small bills	6 98	

Total as per item No. 56 of expenses		<u>\$3,532 00</u>
--------------------------------------	--	-------------------

Amount overdrawn transferred into excess and deficiency account		\$32 00
---	--	---------

Water Rebate.

Appropriation	\$500 00
Paid to sundry persons rebate of water bills as per item No. 57 of expenses	<u>\$408 01</u>

Balance unexpended, transferred into excess and deficiency account	\$91 99
--	---------

Watering Streets and Water for the Same.

Appropriation	\$6,550 00
Water Department, use of water .	\$1,797 84
W. H. Mague, for watering Wards 2, 3 and 4	1,900 00
Timothy Stuart, watering Wards 1 and 7	975 00
Thomas R. Frost, watering Ward 6 .	902 50
James M. Keating, watering Ward 5	317 50
John Joyce, watering Ward 1 . . .	300 00
Newton Cemetery, watering Walnut street	12 00

Total as per item No. 58 of expenses.	<u>\$6,204 84</u>
---------------------------------------	-------------------

Balance unexpended transferred into excess and deficiency account.	<u>\$345 16</u>
--	-----------------

Watering Troughs and Drinking Posts.

Appropriation	\$1,200 00
Water Department, use of water, wa- tering troughs	\$1,008 23
Water Department, use of water, drinking posts	70 00
Total, as per item No. 59 of expenses	\$1,078 23
Balance unexpended, transferred into excess and deficiency account	\$121 77

Water,—Use of Hydrants.

Appropriation	\$11,320 00
Amount paid Water Department, as per item No. 60 of expenses	11,320 00

Washington Street Bridge.

D. H. Andrews, Boston Bridge Co., iron bridge	\$2,276 30
Trumbull & Cheney, payment on con- tract	1,307 91
John A. Kenrick, treasurer, men, la- bor and teams	172 88
H. D. Wood, services as assistant en- gineer	31 32
John Durkin, services as assistant en- gineer	5 50
<i>Amount carried forward</i>	\$3,793 91

Amounts brought forward, \$3,793 91

A. O. Duane, services as assistant en- gineer	2 55
Newton & Watertown Gas Light Co., gas	26 92
Noah Prescott, stone	24 75
Boston & Albany R. R. Co., freight .	20 50
John Dolan, stone	15 00
J. G. Warren, lighting	9 00
S. F. Cate, use of team	2 00
Dennis O'Brien, supplies	2 43

Total as per item No. 61 of expenses . . . \$3,897 06

SCHEDULE OF CITY PROPERTY, REAL AND PERSONAL.

Almshouse Department.

Seventy acres of land	\$25,000 00	
Buildings	5,000 00	
Personal property	3,947 35	
		\$33,947 35

Armory Hall.

Land, building, fixtures, etc.	\$12,000 00
--	-------------

City Hall Department.

City Hall furniture and fixtures	\$50,000 00	
City seal	25 00	
City stamps	35 00	
Reports, statistics, and special laws .	300 00	
Set of standard weights and measures	100 00	
Record books	200 00	
Book-cases, maps, etc.	500 00	
		\$51,160 00

Cemetery Department.

Land in Newton Cemetery	\$5,500 00	
Tomb in Newton Cemetery	800 00	
		\$6,300 00

City Engineering Department.

Two transits, \$150 each	\$300 00	
Three transits, \$100 each	300 00	
Two levels, \$100 each	200 00	
<i>Amounts carried forward</i>	\$800 00	\$103,407 35

<i>Amounts brought forward,</i>	\$800 00	\$103,407 35
Draughting materials	126 00	
Surveying materials	48 00	
Tools	50 00	
Horses, wagons, etc.	200 00	
Cases and furniture	300 00	
		\$1,524 00

Fire Department.

Steam fire engine No. 1, apparatus, horses, and furniture	\$6,000 00	
Steam fire engine No. 2, apparatus, horses, and furniture	6,000 00	
Steam fire engine No. 3, apparatus, horses, and furniture	6,000 00	
Chemical engine No. 1	2,250 00	
Hook and ladder truck, horses, etc. .	3,300 00	
Hose No. 4, horse, hose, reel, etc., Newtonville	1,200 00	
Hose No. 5, horse, hose, reel, etc., Auburndale	1,200 00	
Hose No. 6, horse, hose, reel, etc., Lower Falls	1,500 00	
Hose No. 7, hose-carriage, horse, hose, etc., Upper Falls	1,500 00	
Fire-alarm telegraph, including team, etc.	25,300 00	
		\$54,250 00

Fire and Highway Department Buildings.

Steam fire-engine house, stables and land, Ward 7.	\$13,000 00	
<i>Amounts carried forward</i>		
	\$13, 000 00	\$159,181 35

<i>Amounts brought forward</i>	.	\$13,000 00	\$159,181 35
Steam fire-engine house, stables and			
land, Ward 3	. . .	19,000 00	
Steam fire-engine house, stables and			
land, Ward 6	. . .	19,000 00	
Hook and ladder and hose No. 4,			
house, stables, and land	.	17,500 00	
Hose station No. 5, stables and land,			
Auburndale	. . .	5,200 00	
Hose station No. 6, stables and land,			
Lower Falls	. . .	6,900 00	
Hose station No. 7, stables and land,			
Upper Falls	. . .	7,000 00	
			\$87,600 00

Free Library Department.

Newton Free Library, building and			
land		\$68,000 00	
Books		10,000 00	
			\$78,000 00

Gravel and Gravel Land.

Land on Jewett street, Ward 1	.	\$2,000 00	
Land on California street, Ward 1	.	6,600 00	
Land on Crafts street, Ward 2	.	500 00	
Land on Watertown street, Ward 2,		1,000 00	
Land on Auburndale avenue, Ward 3,		1,200 00	
Land on Pine street, Ward 3	. .	2,550 00	
Land on Pine street, Ward 3	. .	2,000 00	
Land on Pine street, Ward 3	. .	2,000 00	
<i>Amounts carried forward</i>		\$17,850 00	\$324,781 35

<i>Amounts brought forward</i>	\$17,850 00	\$324,781 35
Land on Pine street, Ward 3 . . .	1,200 00	
Land on Pine street, Ward 3 . . .	250 00	
Land on Pine street, Ward 3 . . .	550 00	
Land on Pine street, Ward 3 . . .	200 00	
Land on Bourne street, Ward 4 . . .	9,000 00	
Gravel on Washington street, Ward		
4	600 00	
Gravel on Washington street, Ward		
4	600 00	
Gravel on Walnut street	200 00	
Land on Elliot street, Ward 5 . . .	1,000 00	
Gravel on Parker street, Ward 5 . . .	100 00	
Gravel on Pine street	200 00	
Land east of Oak street, Ward 5 . . .	1,200 00	
Land on Willow and Centre streets,		
Ward 6	500 00	
Land on Florence street, Ward 5 . . .	2,100 00	
Land on Florence street, Ward 5 . . .	2,000 00	
Land on Homer street, Ward 6 . . .	4,000 00	
Land on Murray street, Ward 2 . . .	4,000 00	
		\$45,550 00

Highway Department.

1 steam road roller	\$6,000 00	
22 cart horses, \$225	4,950 00	
3 horses, \$100	300 00	
2 horses for superintendent of streets	375 00	
26 double and single carts	2,600 00	
43 harnesses	850 00	
4 double sleds, \$200	800 00	
3 single sleds	100 00	
<i>Amounts carried forward</i>	\$15,975 00	\$370,331 35

<i>Amounts brought forward</i>	\$15,975 00	\$370,331 00
2 stone crushers and houses	4,600 00	
2 stone wagons, wagon, carriage and sleigh	525 00	
Tools, chains, derricks, blankets, etc. .	1,800 00	
1 road scraper	150 00	
Boiler for steam drill	500 00	
	————	\$23,550 00

Lighting Department.

For 1,369 posts, lanterns, burners, etc., \$10 apiece	\$13,690 00
---	-------------

Police Department.

Station house, building, and land, North Village	\$4,000 00	
Furniture and bedding	50 00	
Lock-up, furniture and bedding, Ward 1	1,050 00	
Lock-up, furniture and bedding, Ward 6	1,575 00	
2 carriages and sleigh	200 00	
Horse, saddle, bridle and harness	350 00	
24 pairs hand-cuffs, \$3.75	90 00	
24 clubs, \$1.50	36 00	
Revolvers and buttons	268 00	
24 badges	137 00	
24 parade clubs and belts, \$3.50	84 00	
<i>Amounts carried forward</i>	\$7,840 00	\$407,571 35

<i>Amounts brought forward</i>	\$7,840 00	\$407,571 35
Blankets	50 00	
Record books	50 00	
Furniture in station at City Hall	75 00	
		\$8,015 00

School Department.

High School buildings, furniture and land	\$113,000 00	
Mason Schoolhouse, furniture and land	49,100 00	
Hyde Schoolhouse, furniture and land	24,500 00	
Prospect Grammar Schoolhouse, fur- niture and land	31,000 00	
Prospect Primary Schoolhouse, furni- ture and land	7,500 00	
Oak Hill Schoolhouse, furniture and land	12,000 00	
Hamilton Schoolhouse, furniture and land	28,000 00	
Williams Schoolhouse, furniture and land	10,000 00	
Williams New Schoolhouse and land	35,000 00	
Peirce Schoolhouse, furniture and land	32,000 00	
Davis Schoolhouse, furniture and land	13,000 00	
Franklin Schoolhouse, furniture and land	15,000 00	
<i>Amounts carried forward</i>	\$370,100 00	\$415,585 35

<i>Amounts brought forward</i>	\$370,100 00	\$415,586 35
Claffin schoolhouse, furniture and land	. 35,000 00	
Adams schoolhouse, furniture and land	. 22,500 00	
Bigelow schoolhouse, furniture and land	. 44,000 00	
Underwood schoolhouse, furniture and land	. 24,000 00	
Lincoln schoolhouse, furniture and land	. 5,500 00	
Jackson schoolhouse, furniture and land	. 15,000 00	
Eliot schoolhouse, furniture and land	19,000 00	
Rice schoolhouse and land	. 20,000 00	
Barnard schoolhouse, furniture and land	. 21,000 00	
Thompsonville schoolhouse, furniture and land	. 5,000 00	
		\$581,100 00

Water Department.

Building for pipe-fitting, etc., stable and land	\$4,000 00
5 horses, wagons, harness, etc.	800 00
	\$1,001,486 35

For cost of water-works, see water construction account.

TABLE showing the Number of Polls, Real and Personal Estate of the City, Amount of Tax, Rate per Cent., Appropriations, etc., for Twenty-nine Years.

A. D.	Polls.	Real Estate.	Personal.	Total.	City, State and County Tax.	Rate.	Appropriations.	Houses.
1861	2,656	\$5,644,285 00	\$1,955,835 00	\$7,600,120 00	\$57,804 88	\$7 20	\$47,500 00	1,330
1862	1,989	5,476,805 00	2,495,821 00	7,922,626 00	56,599 17	6 60	35,000 00	1,374
1863	1,911	5,504,367 00	2,988,195 00	8,492,562 00	64,968 65	7 20	40,000 00	1,399
1864	2,046	5,637,755 00	2,309,021 00	7,946,776 00	78,000 55	9 50	52,500 00	1,421
1865	2,118	5,756,185 00	3,390,075 00	9,146,260 00	113,991 12	12 00	60,000 00	1,438
1866	2,297	6,394,835 00	4,560,724 00	10,955,559 00	114,149 59	10 00	75,000 00	1,491
1867	2,438	7,227,285 00	4,995,127 00	12,222,412 00	153,990 88	12 20	95,000 00	1,552
1868	2,736	9,104,567 00	5,366,602 00	14,441,169 00	193,200 88	13 00	160,000 00	1,671
1869	2,937	10,288,610 00	5,634,266 00	15,922,876 00	188,990 46	11 50	150,000 00	1,826
1870	3,055	11,407,070 00	6,330,922 00	17,737,992 00	222,514 71	12 20	185,000 00	2,077
1871	3,199	12,770,420 00	6,615,593 00	19,386,013 00	223,521 32	11 20	185,000 00	2,220
1872	3,420	15,792,950 50	8,463,904 00	24,256,854 00	334,314 87	13 50	291,050 00	2,392
1873	3,659	18,446,275 00	7,537,775 00	25,984,050 00	384,089 84	14 50	333,300 00	2,523
1874	3,917	20,032,800 00	8,048,645 00	28,081,445 00	372,893 53	13 00	320,000 00	2,657
1875	4,089	21,073,495 00	7,882,374 00	28,955,869 00	399,085 46	13 50	351,000 00	2,876
1876	4,334	21,128,120 00	7,072,845 00	28,200,965 00	392,201 13	13 60	350,004 99	3,004
1877	4,045	20,007,025 00	6,627,488 00	26,634,513 00	370,319 38	13 60	402,200 00	3,057
1878	3,882	18,604,105 00	6,408,825 00	25,012,930 00	352,942 43	13 80	378,400 00	3,150
1879	4,010	17,456,655 00	6,830,697 00	23,787,352 00	326,959 64	13 40	367,850 00	3,178
1880	4,132	17,718,270 00	7,481,830 00	25,200,100 00	361,137 40	14 00	388,525 00	3,214
1881	4,336	18,238,510 00	8,162,763 00	26,408,273 00	379,434 18	14 00	416,505 00	3,257
1882	4,502	18,930,485 00	7,405,233 00	26,335,718 00	383,633 00	14 20	423,930 00	3,310
1883	4,661	19,794,805 00	7,329,283 00	27,124,088 00	427,033 59	15 40	488,120 00	3,381
1884	4,804	20,467,295 00	7,347,266 00	27,814,561 00	410,137 68	14 40	478,306 88	3,468
1885	4,984	21,134,820 00	7,865,000 00	28,999,820 00	415,965 48	14 00	475,490 00	3,542
1886	5,200	21,977,061 00	9,039,869 00	31,016,930 00	457,051 28	14 40	524,420 00	3,695
1887	5,671	23,080,866 00	9,196,441 00	32,277,307 00	511,613 38	15 80	562,080 00	3,856
1888	5,870	24,132,630 00	9,146,012 00	33,278,642 00	517,591 35	15 20	571,739 00	4,018
1889	6,185	25,330,300 00	9,264,372 00	34,654,672 00	550,490 19	14 80	624,124 00	4,200

TABLE

Showing Amount Paid for Support of Poor out of Almshouse
from 1851 to 1889 Inclusive.

1851 . . .	\$38 56	1871 . . .	\$3,713 39
1852 . . .	101 94	1872 . . .	2,884 79
1853 . . .	45 70	1873 . . .	3,066 59
1854 . . .	38 10	1874 . . .	3,895 51
1855 . . .	73 63	1875 . . .	5,553 79
1856 . . .	135 49	1876 . . .	9,336 14
1857 . . .	204 96	1877 . . .	10,259 57
1858 . . .	387 61	1878 . . .	8,284 10
1859 . . .	358 25	1879 . . .	8,246 42
1860 . . .	500 81	1880 . . .	6,455 80
1861 . . .	757 14	1881 . . .	6,808 75
1862 . . .	781 50	1882 . . .	7,933 57
1863 . . .	632 27	1883 . . .	8,016 14
1864 . . .	605 02	1884 . . .	7,076 86
1865 . . .	870 77	1885 . . .	8,500 15
1866 . . .	643 72	1886 . . .	7,661 96
1867 . . .	1,268 08	1887 . . .	8,269 41
1868 . . .	1,464 53	1888 . . .	9,155 74
1869 . . .	2,019 28	1889 . . .	8,371 73
1870 . . .	2,197 41		

SALARIES OF CITY OFFICERS, 1889.

Mayor	\$1,000 00
City clerk	2,000 00
City treasurer and collector	3,000 00
Assistant treasurer and deputy collector	1,800 00
City auditor	2,000 00

City solicitor	\$1,250 00
One assessor, who is also clerk of board . .	1,200 00
Two assessors, each	900 00
Assistant assessors, each per day	4 00
City messenger	1,100 00
Clerk of Common Council	200 00
Sealer of weights and measures	75 00
Milk inspector	250 00

HIGHWAY DEPARTMENT.

Superintendent of streets, two horses and carriage furnished	\$1,700 00
City engineer	2,500 00

FIRE DEPARTMENT.

Chief of department, team furnished	\$1,600 00
Assistant chief and superintendent of Fire Alarm Telegraph, team furnished	1,200 00
Three engineers of steamers, each	1,000 00
Four drivers of steamers, and Hook and Ladder Co., each	800 00
Five drivers of hose-carriages, Nos. 1, 2, 3, 4, and 5, each	650 00
One driver, hose 7	325 00
Three stokers, each	100 00
Eight foremen of steamers, and Hook and Ladder and Hose Co., each	110 00
Eight assistant foremen, and clerks of steamers, and Hook and Ladder and Hose Co., each,	105 00
Forty hosemen and laddermen, each , , ,	100 00

POLICE DEPARTMENT.

City Marshal, team furnished	\$1,600 00
Captain of police	1,200 00
Sergeant of police, \$3 per day.	
Sixteen policemen, each	1,000 00
Two policemen	900 00
One policemen	825 00
One policemen	750 00
First year of service	750 00
Second year of service	825 00
Third year of service	900 00
Fourth and subsequent years	1,000 00

POOR DEPARTMENT.

Seven overseers of poor, each	\$50 00
City almoner and clerk of board	1,000 00
Warden of almshouse	700 00

WATER DEPARTMENT.

Water registrar	\$1,800 00
Superintendent of water-works, team furnished,	1,700 00
Inspector of meters and fixtures	1,400 00
Clerk	624 00
Engineer at pumping station, with house-rent	1,200 00
Fireman and watchman, pumping station, with house-rent	600 00

SCHOOLS.

Superintendent	\$2,880 00
One teacher	3,000 00
One teacher	2,200 00
One teacher	2,000 00
Nine teachers, at \$1,900	17,100 00
One teacher	1,800 00
One teacher	1,770 00
One teacher	1,612 50
One teacher	1,500 00
One teacher	1,200 00
Four teachers, at \$1,000	4,000 00
Two teachers, at \$950	1,900 00
One teacher	900 00
Nineteen teachers, at \$750	14,250 00
Forty-nine teachers, at \$600	29,400 00
Six teachers, at \$550	3,300 00
Six teachers, at \$500	3,000 00
Two teachers, at \$450	900 00
One teacher	400 00
One teacher	220 00
One teacher	180 00
Secretary of School Committee	300 00

JANITORS.

One janitor	\$953 00
One janitor	768 00
One janitor	696 00
One janitor	588 00
One janitor	456 00

One janitor	441 00
One janitor	372 00
Three janitors, at \$360	1,080 00
One janitor	276 00
One janitor	270 00
Two janitors, at \$264	528 00
One janitor	147 00
One janitor	140 00
One janitor	108 00
One janitor	96 00
One janitor	90 00
One janitor	66 00
One janitor	30 00

LIBRARY.

Librarian	\$1,000 00
Assistant librarian	500 00
Four assistants	1,800 00
Janitor	800 00

OFFICERS
OF THE
NEWTON CITY GOVERNMENT,
1890.

MAYOR.

HEMAN M. BURR.
Office Hour at City Hall :
9 A. M. Daily.

BOARD OF ALDERMEN.

President, GEORGE PETTEE.

WARD ONE.

LEWIS E. COFFIN.

WARD THREE.

LAWRENCE BOND.

WARD FIVE.

GEORGE PETTEE.

WARD TWO.

JOHN A. FENNO

WARD FOUR.

FREDERICK JOHNSON

WARD SIX.

WILLIAM F. HARBACH

WARD SEVEN.

EPHRAIM S. HAMBLIN.

STANDING COMMITTEES, BOARD OF ALDERMEN.

Committee on Elections and Returns.

ALDERMEN.

GEORGE PETTEE.

LEWIS E. COFFIN

Committee on Enrolled Ordinances and Resolutions.

ALDERMEN.

LEWIS E. COFFIN.

EPHRAIM S. HAMBLIN

STANDING COMMITTEES, BOARD MAYOR AND ALDERMEN.

Committee on Police.

THE MAYOR.

ALDERMEN.

FREDERICK JOHNSON.

JOHN A. FENNO

Committee on Licenses, Weights and Measures.

ALDERMEN.

FREDERICK JOHNSON.

JOHN A. FENNO

Regular meetings of the Board, first and third Mondays of each month, at 7.15 P. M.

Clerk of Board of Aldermen.

ISAAC F. KINGSBURY.

COMMON COUNCIL.

President, ELLIOTT J. HYDE.

WARD ONE.

REUBEN FORKNALL.

EDWARD J. H. ESTABROOK

WARD THREE.

ARTHUR F. LUKE.

FRANCIS M. DUTCH.

WARD FIVE.

ELLIOTT J. HYDE.

EDWARD L. COLLINS.

WARD TWO.

GEORGE F. CHURCHILL

GEORGE A. MEAD

WARD FOUR.

FREDERIC M. CREHORE

FRANCIS E. PORTER

WARD SIX.

GEORGE F. RICHARDSON

ALBERT H. ROFFE

WARD SEVEN.

LOUIS A. HALL.

WILLIAM C. BATES

STANDING COMMITTEES OF THE COMMON COUNCIL.

Committee on Enrolled Ordinances and Resolutions.

COUNCILMEN.

WILLIAM C. BATES.

ALBERT H. ROFFE

FRANCIS E. PORTER.

Regular meetings of the Common Council, second and fourth Mondays of each month, 7.15 P. M.

Clerk of Common Council.

JOHN C. BRIMBLECOM,

JOINT STANDING COMMITTEES OF CITY COUNCIL.

Committee on Finance and Salaries.

ALDERMEN.

FREDERICK JOHNSON.

LAWRENCE BOND

COUNCILMEN.

President, ELLIOTT J. HYDE.

ARTHUR F. LUKE.

GEORGE F. CHURCHILL

Committee on Accounts.

ALDERMEN.

LEWIS E. COFFIN.

EPHRAIM S. HAMBLIN

COUNCILMEN.

GEORGE A. MEAD.

FREDERIC M. CREHORE

FRANCIS M. DUTCH.

Committee on Public Property.

ALDERMEN.

LEWIS E. COFFIN.

GEORGE PETTEE

COUNCILMEN.

ALBERT H. ROFFE.

REUBEN FORKNALL.

LOUIS A. HALL.

Committee on State Aid, Soldiers' Relief, and Military Affairs.

ALDERMEN.

EPHRAIM S. HAMBLIN.

JOHN A. FENNO

COUNCILMEN.

ARTHUR F. LUKE.

REUBEN FORKNALL

ALBERT H. ROFFE.

Committee on Fuel and Street Lights.

ALDERMEN.

JOHN A. FENNO.

EPHRAIM S. HAMBLIN

COUNCILMEN.

EDWARD I. COLLINS.

FREDERIC M. CREHORE

GEORGE A. MEAD.

Committee on Fire Department.

ALDERMEN.

GEORGE PETTEE.

LAWRENCE BOND

COUNCILMEN.

GEORGE F. RICHARDSON.

LOUIS A. HALL

EDWARD J. H. ESTABROOK.

Committee on Highways, Streets and Ways, Sidewalks, Drains, and Culverts.

ALDERMEN.

WILLIAM F. HARBACH.

GEORGE PETTEE

LEWIS E. COFFIN.

COUNCILMEN.

ARTHUR F. LUKE.

WILLIAM C. BATES

GEORGE F. CHURCHILL.

FRANCIS E. PORTER

Committee on Printing.

ALDERMEN.

FREDERICK JOHNSON.

COUNCILMEN.

REUBEN FORKNALL.

GEORGE F. RICHARDSON

Committee on Ordinances.

ALDERMEN.

LAWRENCE BOND.

WILLIAM F. HARBACH

COUNCILMEN.

WILLIAM C. BATES.

EDWARD L. COLLINS

FRANCIS M. DUTCH.

Committee on Claims.

ALDERMEN.

EPHRAIM S. HAMBLIN.

LAWRENCE BOND

COUNCILMEN.

President ELLIOTT J. HYDE.

GEORGE F. RICHARDSON,

EDWARD J. H. ESTABROOK

Committee on Almshouse and Poor.

ALDERMAN.

GEORGE PETTEE.

COUNCILMEN.

ALBERT H. ROFFE.

REUBEN FORKNALL

Committee on Assessors' Department.

ALDERMAN.

WILLIAM F. HARBACH.

COUNCILMEN.

EDWARD L. COLLINS.

GEORGE F. RICHARDSON

Highway Surveyors.

ALDERMEN.

WILLIAM F. HARBACH.

GEORGE PETTEE

LEWIS E. COFFIN.

COUNCILMEN.

ARTHUR F. LUKE.

WILLIAM C. BATES

GEORGE F. CHURCHILL.

FRANCIS E. PORTER

Committee on Parks, Squares, and Burial Grounds.

ALDERMEN.

GEORGE PETTEE.

FREDERICK JOHNSON

COUNCILMEN.

LOUIS A. HALL.

ALBERT H. ROFFE

GEORGE A. MEAD.

JOINT SPECIAL COMMITTEES.

Sewerage.

ALDERMEN.

WILLIAM F. HARBACH.

JOHN A. FENNO

COUNCILMEN.

EDWARD L. COLLINS.

EDWARD J. H. ESTABROOK

FRANCIS M. DUTCH.

Rules and Orders.

ALDERMEN.

JOHN A. FENNO.

FREDERICK JOHNSON

COUNCILMEN.

GEORGE F. RICHARDSON.

JOHN A. FENNO

ARTHUR F. LUKE.

Read Fund.

ALDERMEN.

EPHRAIM S. HAMBLIN.

LEWIS E. COFFIN

COUNCILMEN.

REUBEN FORKNALL.

LOUIS A. HALL

EDWARD J. H. ESTABROOK.

WILLIAM C. BATES

Clerk of Committees.

BENJAMIN F. OTIS.

TRUSTEES OF NEWTON FREE LIBRARY.

JOHN S. FARLOW, *President.*

Alderman EPHRAIM S. HAMBLIN.

Councilman EDWARD L. COLLINS

JULIUS L. CLARKE.

EDWIN B. HASKELL

A. LAWRENCE EDMANDS.

WILLIAM CLAFLIN

Meetings first Tuesday in each month, 7 o'clock P. M.

BOARD OF HEALTH.

THE MAYOR, *ex-officio.*

OTIS PETTEE, *President.*

Alderman LAWRENCE BOND.

JESSE F. FRISBIE

Councilman LOUIS A. HALL.

J. FRANKLIN FULLER*

Clerk and Agent of Board.

WILLIAM S. FRENCH.

Agent for Inspection of Plumbing.

WILLIAM S. FRENCH.

Meetings first and third Tuesdays in each month, 4.20 P. M.

*Resigned. EDMUND T. WISWALL appointed to fill vacancy.

WATER BOARD.EDWARD W. CATE, *President*

Alderman WILLIAM F. HARBACH. Councilman FREDERIC M. CREHORE

FRANCIS A. DEWSON.

LEVI C. WADE

Clerk.

J. CLIFTON WHITNEY.

**SINKING FUND COMMISSIONERS, AND TRUSTEES OF THE
READ FUND.**

GEORGE S. BULLENS.

GEORGE C. LORD

ALDEN SPEARE.

CITY SOLICITOR.

WINFIELD S. SLOCUM.

ASSESSORS.SAMUEL M. JACKSON, *Chairman.*

HOWARD B. COFFIN.

CHARLES A. MINER, *Clerk.***Assistant Assessors.**

WARD ONE.

R. ORLANDO EVANS.*

WARD TWO.

ALBERT A. SAVAGE.

WARD THREE.

WILLARD P. PLIMPTON.

WARD FOUR.

BERNARD EARLY.

WARD FIVE.

OTIS PETTEE.

WARD SIX.

GEORGE WARREN.

WARD SEVEN.

EDWARD W. COBB.

REGISTRARS OF VOTERS.GEORGE E. BRIDGES, *Chairman.*

GEORGE H. BOURNE.

RICHARD T. SULLIVAN.†

Clerk.

ISAAC F. KINGSBURY.

OVERSEERS OF POOR.THE MAYOR, *ex officio.*

WARD ONE.

R. ORLANDO EVANS.†

WARD TWO.

JOHN F. PAYNE.

WARD THREE.

ANDREW J. FISKE.

WARD FOUR.

NATHAN MOSMAN.

WARD FIVE.

EUGENE FANNING.

WARD SIX.

GEORGE WARREN.

WARD SEVEN.

HENRY C. DANIELS.

* Died Jan'y 21. THOMAS C. PARKS elected to fill vacancy.

† Died Jan'y 21. WILLIE M. RUSSELL elected to fill vacancy.

‡ AMOS L. HALE appointed Sept. 23d, 1890, vice R. T. SULLIVAN term expired.

Clerk.

NATHAN MOSMAN.

Meetings first Thursday in each month, 3.45 p. m.

SECRETARY OF SCHOOL COMMITTEE.

THOMAS EMERSON (Superintendent of Schools).

Office at High School. Hours, Monday, 2 to 4 and 6.30 to 8 p. m.

OFFICERS AT CITY HALL.

P. O. Address, West Newton, Mass.

City Clerk, ISAAC F. KINGSBURY.

Assistant City Clerk, JOHN C. BRIMBLECOM.

City Treasurer and Collector of Taxes, JOHN A. KENRICK.

Deputy Collector of Taxes, MOSES CLARK, JR.

Auditor, BENJAMIN F. OTIS.

Clerk, THEO A. FLEU,

City Engineer, ALBERT F. NOYES.

Assessor and Clerk of Board, CHARLES A. MINER.

Water Registrar, J. CLIFTON WHITNEY.

Clerk, Miss E. D. HINCKLEY.

City Almoner, Clerk of Overseers of Poor, NATHAN MOSMAN.

City Messenger, J. D. WELLINGTON.

City Marshal, CHARLES F. RICHARDSON.

OFFICE HOURS:

8.15 A. M. to 12.30 P. M. 2 to 5 P. M.

Except Saturdays in June, July, August and September,

when the hours are from 8.15 A. M. to 12.30 P. M.

Chief of Fire Department, HENRY L. BIXBY.

Hours at City Hall, 2 to 5 P. M.

Superintendent of Streets, WILLIAM E. FULLER.

Hours at City Hall, 11.30 A. M. to 12 M. 4.30 to 5 P. M.

Superintendent of Water Works, H. N. HYDE, JR.

Office at Pipe Yard, Austin Street, Newtonville.

Agent Board of Health, WILLIAM S. FRENCH.

Hours at City Hall, 8.15 to 10.15 A. M.

STATISTICS COMPILED BY THE CITY CLERK FROM THE RECORDS OF HIS OFFICE.

MARRIAGES REGISTERED, 1889.

January	17	August	16
February	14	September	22
March	9	October	29
April	14	November	30
May	17	December	25
June	28		—
July	14	Total	235

Birthplaces of the Above Contracting Parties.

	Groom.	Bride.
United States	138	123
Ireland	55	62
Canada	28	37
England	6	6
Sweden	2	2
Denmark	2	1
Germany	2	1
Scotland	2	—
Prussia	—	1
Switzerland	—	1
Wales	—	1
Totals	235	235
American	138	123
Foreign	97	112
Totals	235	235

BIRTHS REGISTERED IN 1889.

WARDS.	1		2		3		4		5		6		7		TOTAL.		AGGREGATE.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
January	4	3	3	1	3	6	1	3	4	4	5	4	—	—	18	19	37
February	3	1	7	4	3	5	1	4	4	4	1	3	—	—	16	19	35
March	3	6	7	7	4	5	6	4	4	4	1	3	3	6	22	26	48
April	3	3	1	8	4	4	9	1	1	6	3	4	—	—	14	22	36
May	1	5	2	3	6	3	3	1	1	3	3	3	3	3	19	15	34
June	1	1	6	3	3	3	3	1	1	1	4	2	1	3	18	11	29
July	6	5	6	5	2	5	3	1	4	4	4	4	1	1	25	22	47
August	6	5	8	3	2	3	3	3	3	3	2	4	—	—	21	21	42
September	6	4	4	4	3	9	3	5	3	3	1	3	4	1	19	31	50
October	5	5	3	6	3	6	3	3	2	3	4	4	—	—	22	29	51
November	5	4	5	5	3	4	5	3	0	0	1	2	—	—	22	30	52
December	5	6	8	8	4	6	5	5	4	1	2	6	1	1	29	33	62
Totals	46	48	58	54	37	55	34	30	32	37	31	38	7	16	245	278	523
Aggregate	94		112		92		64		69		69		23		523		

Birthplace of Parents.

	Fathers.	Mothers.
United States	279	253
Ireland	119	135
England	28	29
Canada	18	14
Nova Scotia	41	48
New Brunswick	8	12
Newfoundland	1	2
Prince Edward Island	5	11
Scotland	9	6
Germany	4	2
Sweden	3	3
Denmark	2	2
Holland	1	-
France	1	2
Spain	1	-
Cuba	-	1
East Indies	-	1
South America	2	1
China	1	
India	-	1
Totals	523	523
American	279	253
Foreign	244	270
Totals	523	523

STATEMENT OF DEATHS BY MONTHS IN EACH WARD.

WARDS.	1		2		3		4		5		6		7		TOTAL.		AGGREGATE.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
January .	3	-	1	2	1	4	3	2	1	3	3	3	-	-	11	14	25
February .	6	1	3	4	3	4	4	4	-	2	3	3	1	2	20	18	38
March .	3	1	1	1	1	2	1	1	2	1	1	1	-	2	10	13	23
April .	3	1	2	1	-	3	2	1	3	-	1	-	-	-	11	10	21
May .	5	1	1	1	1	3	1	1	1	1	1	1	-	-	10	10	20
June .	4	4	3	4	1	2	3	1	1	2	2	3	2	-	18	14	32
July .	3	6	8	1	1	1	3	1	1	3	4	3	1	3	15	14	29
August .	3	3	1	3	1	1	3	1	1	1	1	1	1	1	20	10	30
September .	3	1	1	1	4	3	1	1	2	5	5	1	1	3	12	11	23
October .	2	5	1	3	1	3	4	3	1	2	1	1	-	1	11	15	26
November .	1	5	2	1	2	1	2	1	1	2	1	2	-	-	10	17	27
December .	1	5	2	3	2	5	2	2	1	1	1	2	-	-	10	19	29
Totals .	35	38	33	28	13	30	29	16	17	22	26	17	5	14	158	165	323
Aggregate .	73		61		43		45		39		43		19		323		

Birthplace of Parents of Above Deceased Persons.

	Fathers.	Mothers.
United States	140	147
Ireland	103	103
Canada	32	33
England	24	20
Scotland	5	6
France	2	1
Germany	2	1
Denmark	1	1
West Indies	1	1
Poland	1	-
Unknown	12	10
Totals	323	323
American	140	147
Foreign	171	166
Unknown	12	10
Totals	323	235

OFFICE FEES.

DR.

Assignees Affidavit	25	
Assignment of account	75	
Assignment of income	50	
Assignment of wages	4 75	
Assignment of wages, discharged .	25	
Bills of sale	3 25	
Foreclosure of pledge	1 25	
Licenses, auctioneer	26 00	
Licenses, innholder	1 00	
Licenses, intelligence office . .	18 00	
Licenses, junk	42 00	
Licenses, liquor, 6th class . .	21 00	
Licenses, marriage	113 00	
Licenses, pool table	2 00	
Mortgages	85 25	
Mortgages, assignment of . . .	2 00	
Mortgages, discharge of . . .	5 75	
Naturalization certificate . . .	4 50	
Total receipts		\$331 50

DOGS LICENSED.

1,270 males, at \$2	\$2,540 00	
152 females, at \$5	760 00	
2 breeders' licenses	50 00	
Total receipts for dogs		\$3,350 00
Aggregate collections		\$3,681 50

C.R.

By office fees paid monthly to city		
treasurer	\$331 50	
Paid county treasurer, dog license re-		
ceipts	3,065 20	
Retained fees, 1424 licenses, 20 cents	284 80	
		\$3,681 50

Dogs are distributed in the various Wards as follows:

WARDS.	1	2	3	4	5	6	7	TOTALS.
Male	138	223	209	205	168	213	113	1270
Female	23	28	16	22	26	19	18	152
Totals	161	251	225	227	194	232	131	1422

An increase of 65 dogs over 1888.

Registered Voters and Votes Cast.

(From List used at City Election December 3.)

WARDS.	1	2		3	4	5		6	7	TOTALS.
		Pre.1	Pre2			Pre.1	Pre2			
Men	501	365	365	575	535	257	237	567	457	3859
Women	12	7	19	66	23	-	3	26	34	190
Men	410	300	280	481	413	189	187	436	381	3079
Women	6	3	4	40	9	-	1	19	25	107

Enrolled Militia.

WARDS.	1	2	3	4	5	6	7	TOTALS.
1889	645	730	609	597	623	718	428	4350
1888	616	708	382	568	553	662	423	3912
Gain	29	22	227	29	70	56	5	438

REPORT OF SUPERINTENDENT OF BURIAL GROUNDS FOR 1889.

Amount expended caring for the three city cemeteries, and the city and soldiers' monument lot in Newton Cemetery :

65 1-4 days work at \$1.75	\$114 19
10 1-2 " " " \$2.00	21 00
12 1-4 " " for horses at \$1.50	18 37
10 Ash trees, at \$1	10 00
4 Norway spruce, at \$1	4 00
2 Padlocks	50
2 Castleton slate for tomb doors	5 00
Top-dressing, soldiers' lot	10 00
Use of tools	5 00
Services of Superintendent	200 00
	\$388 06
Unexpended balance	11 94
Amount of appropriation	\$400 00

The cemeteries are in very good condition, except the one at West Newton which needs considerable grading. Old tomb fronts in the Centre street cemetery will require to be rebuilt.

There were twelve interments in the city cemeteries during the year.

City lot in Newton cemetery	3
Centre street	6
Winchester street	3
	12

Ten trees were set in Centre street cemetery.

HENRY ROSS, *Superintendent.*

CITY OF NEWTON.

ANNUAL REPORT

OF THE

BOARD OF HEALTH,

FOR THE YEAR 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS.
1890.

BOARD OF HEALTH OF THE CITY OF NEWTON,
1889.

HIS HONOR, HEMAN M. BURR, MAYOR, *ex officio*.

OTIS PETTEE, *President*.

JESSE F. FRISBIE, M. D.

J. FRANKLIN FULLER.

Alderman ADAMS K. TOLMAN.*

Alderman EPHRAIM S. HAMBLIN.†

Alderman WILLIAM F. HARBACH.

Councilman EDMUND T. WISWALL.

Clerk and Agent of Board.

WILLIAM S. FRENCH.

Agent for Issuing Burial Permits.

ISAAC F. KINGSBURY, *City Clerk*.

Consulting Engineer.

ALBERT F. NOYES, *City Engineer*.

Meetings: First and Third Tuesdays in each month, 4.20 P. M.

* Resigned September 16.

† Resigned October 28.

PAST BOARDS OF HEALTH.

1874—1885.

THE BOARD OF ALDERMEN.

1885.

Mayor J. WESLEY KIMBALL,	JESSE F. FRISBIE, M. D.,
J. FRANKLIN FULLER,	CHARLES C. BARTON,*
Alderman BENJAMIN S. GRANT.	Councilman JOHN F. HECKMAN.†

1886.

Mayor J. WESLEY KIMBALL,	OTIS PETTEE,
JESSE F. FRISBIE, M. D.,	J. FRANKLIN FULLER,
Alderman BENJAMIN S. GRANT,	Councilman FRANK EDMANDS.

1887.

Mayor J. WESLEY KIMBALL,	OTIS PETTEE,
JESSE F. FRISBIE, M. D.,	J. FRANKLIN FULLER,
Alderman BENJAMIN S. GRANT,	Councilman HEMAN M. BURR.

1888.

Mayor J. WESLEY KIMBALL,	OTIS PETTEE,
JESSE F. FRISBIE, M. D.,	J. FRANKLIN FULLER,
Alderman JAMES H. NICKERSON,	Councilman HEMAN M. BURR.

* Resigned Sept. 1. Otis Pettee appointed to fill vacancy Oct. 19.

† Resigned Oct. 12. Frank Edmands appointed to fill vacancy Oct. 19.

REPORT.

"It has been proved over and over again, that nothing is so costly in all ways as disease, and that nothing is so remunerative as the outlay which augments health."

—*Parkes.*

TO HIS HONOR THE MAYOR AND THE CITY COUNCIL:

Gentlemen:—In conformity with law and usage the Board of Health herewith submits its annual report for the year ending Dec. 31, 1889.

The ordinary work of the Board has been carried along under the same general policy as in preceding years. There has been a large increase however in the amount of work done by the Board during the year which has just closed, making large demands upon the time and patience of the individuals composing the same. In consequence of this the membership has changed somewhat during the year, as two members from the Board of Aldermen found that they could not give the necessary attention, in conjunction with their other duties as members of the upper branch of the city government.

Several times during the year the Board has found it necessary to exercise the powers conferred upon it by the Public Statutes and while unfavorable comment has been received from some who were ignorant of the necessity for so doing, or else were parties affected by the proceedings, yet on the other hand the public sentiment has been favorable to the

course taken, and a strong feeling thereby created that the Board were endeavoring to protect the city from the ravages and encroachments of disease.

Diseases Dangerous to the Public Health.

The experience of all Boards of Health has clearly shown the necessity of restrictive measures against the spread of diseases dangerous to the public health. The statutes specify three diseases, — small-pox, diphtheria and scarlet fever—as being dangerous to public health, and confer upon the local Boards the power to decide what other diseases are to be so considered. Whenever any such disease breaks out in a town or city, the Board of Health is at once *required* by the same law to provide hospitals for the proper care of persons affected, and to enforce such quarantine regulations as in their judgment may seem necessary. Public sentiment has been educated to that point that it heartily endorses all measures, even to force, to suppress small-pox whenever it appears, and yet the statistics of this country and the experience of all physicians clearly show that small-pox is not to be dreaded one-tenth part as much as diphtheria. Small-pox is a loathsome disease, whose progress is in certain clearly defined channels thoroughly understood and controlled by the physician. Diphtheria on the other hand is a treacherous foe, working in the most underhand manner, often deceiving the experienced physician and baffling the most skilful treatment. Consequently of late years the attention of Boards of Health throughout the country has been earnestly directed towards stamping out and preventing the spread of diphtheria.

During the year an exceptionally large number of cases of diphtheria have occurred, yet as a rule they have been local and specific rather than epidemic. During 1888 the rainfall was much more than the average, and the number of cases was

considerably increased over each of the three preceding years. In 1889 the rainfall was again very heavy and the cases increased to such an extent as to give the Board unusual difficulty to prevent its spread. From the experience of the last five years there would seem to be good reason for believing that a heavy rainfall, increasing as it must the humidity of the soil as well as the atmosphere, is a potent factor in the propagation of diphtheria, while the atmosphere under such conditions may oppose its spread much less than has been usually supposed.

There are but a few places in the state that have a hospital properly equipped and ready for the care of contagious diseases. Undoubtedly the usual custom among Boards of Health is to allow a patient sick with diphtheria to remain in the house where he is taken sick unless some peculiar circumstances exist which compel removal to some other place. The great objection to this plan is that except in extremely rare cases, the proper quarantine regulations cannot be enforced without creating hardships greater than to remove the patient. Hence in the ordinary house, and with the usual care given a patient, isolation often becomes a snare and a delusion. Even under the care of a trained nurse, the doors are frequently left open, the members of the household pass in and out of the sick-room into others, and the germs of this dreaded disease are carried in one way or another from room to room until portions of the house supposed to be carefully guarded are contaminated and another member of the household is stricken in a mysterious manner and frequently with fatal results. Household pets, especially cats, are to be particularly looked after when this disease appears in a house, and yet they are seldom if ever thought of, and frequently have the full run of the house. While the Board of Health cause placards with the name of the disease to be placed upon the house, so as to

warn the public, the friends of the family can heed that warning or not as they choose. There is nothing, unless it is fear, to prevent them from entering the house and seeing the patient and then going out and mingling with the public. If people feel like taking their own lives in their hands, they ought not to do so at the risk of others. A notable case coming under these conditions developed in a family in Ward Four, where two children, the mother and finally the nurses came down sick and the mother very nearly lost her life. After passing through this terrible and trying experience, when it came to disinfecting the premises, the mother seemed to think more of saving a little of the personal clothing from possible injury than of doing all she could to free them from possible or even probable contamination, even though by so doing another child might eventually be exposed to the dread disease. Fortunately however such instances in our community are rare.

About the middle of January, diphtheria suddenly appeared at Newton Centre in its most virulent form and before the case was known to either any physician or to the Board, the germs of the disease had undoubtedly been carried to various sections of the city and even into an adjoining town, and the disease was rapidly becoming epidemic, with great fatality, especially among the children. Stringent measures were taken to control the spread of the disease, even to the establishment of a police quarantine, where it was evident that parties would not observe the rules laid down by the Board. By means of these restrictive measures the course of the disease in direct channels was undoubtedly arrested.

Several requests have been made, especially by some of our physicians, that a full account of this threatened epidemic and the measures taken to avert it be published, and the account may prove of interest to the public generally. On the morning of January 14th, the agent received notice from

Dr. Loring that Mrs. Dubois of Station street, Newton Centre, had died from malignant diphtheria, that her child one and a half years old was sick with the same disease, and that an immediate inspection of the premises was desirable. The inspection was made and the premises were found to be in a deplorable condition. Steps were immediately taken to see that an improvement was made and at the first opportunity the place was put in good condition. Later in the day first mentioned, the little one died while the physicians were performing tracheotomy as a last resort. On the morning of January 18th, the agent was called to Newton Centre by Dr. Bodge to again visit a diphtheria case, this time in the family of Wm. Hockridge on Station street near Thompsonville. No perceptible cause for the disease could be found around the premises. Upon leaving this house the doctor and the agent went to the house of Mr. Fred Balders, one of the village barbers, he having been sent home the night before by the doctor with a suspicious looking throat. Upon examination the doctor at once pronounced this also to be a genuine case of diphtheria. In both cases the usual precautionary measures were at once taken. The Board also closed the barber shop immediately and thoroughly disinfected the same before allowing it to be again used.

In the course of investigations as to the cause of these cases, it was found that Mrs. Dubois had really been sick with what was supposed to be only a sore throat for nearly a week before she died. She did not, however, give up and take to her bed until the night of Jan. 11th and called her physician the next day, the disease resulting fatally in the night of the 13th. On the afternoon of the 11th, just before Mrs. Dubois gave up, a West Newton baker by the name of Barthelmes called at the house, talked with Mrs. Dubois for some moments and sold her some goods from his team. It was also found

that the Hockridge family were among the customers of Mr. Barthelmes, and that he had been in the habit of stopping there upon his trips to Newton Centre, and also that Mr. Balders was a half-brother of Mr. Barthelmes and that they usually met once or twice a week and sometimes oftener.

On the evening of Jan. 19th notice was received from Dr. O'Reilly of Waltham that James Ryan of Cherry street, West Newton, was sick with diphtheria. Upon visiting the Ryan house the next morning it was found that the sick boy worked on the Barthelmes' team and had been with him on his trips in almost every case. While here the agent learned that one of Mr. Barthelmes' children had died early that morning. While ordinarily no suspicions would have been aroused, yet considering all the circumstances, the agent felt that he ought to inquire into the cause of the last death. The agent was assured by the physician upon visiting him, that, in his opinion, it was only a case of croup; that circumstances were somewhat against the child, and that he had not seen the first symptom that would cause him to say or think it was diphtheria. Upon this statement no further investigation or action was considered necessary.

On the 21st, notice was received that Robert Waite, residing on Fern street, Auburndale, a fine young lad attending the High school and whose system had become run down from too close application to his books, was ill with diphtheria, which resulted fatally on the 26th. On the 22d the Board were notified that Rhoda Eastabrook, five years old, living at the Upper Falls on Chestnut street, was also sick with the same disease which resulted fatally that same night. On the 23d Susie Eastabrook was reported sick and died Feb. 1st. On the 28th the third and last child was reported sick, but after a long and dangerous illness and the utmost care, the little girl finally recovered. The last two cases undoubtedly

developed from the preceding one. At each of these houses no local cause could be found and there was no known exposure other than to this same Barthelmes or his helper, Ryan, as in both families food had been purchased from the team and the children had come into contact with one or the other of the two parties. One other family, that of Peter White of Weston, was also attacked by the disease after being visited by the baker. When our agent learned of the latter case, he immediately sent the facts in his possession to the Weston Board of Health, who immediately took prompt action and only two cases developed.

On the afternoon of the 22d the agent was hastily summoned to his office where he found Dr. O'Reilly waiting, who reported that he evidently had two cases of diphtheria in Mr. Barthelmes' family across the street. Dr. Jarvis of Waltham had been called in consultation with him and both agreed as to the diagnosis of the cases. The doctor desired the Board to immediately open up the small-pox hospital and remove the infected family thereto, as he feared that otherwise the house would become the centre of a large amount of infection and sickness. Not knowing in what condition the hospital might be, the agent in company with Dr. O'Reilly, drove there and examined the premises. After inspecting the same the agent stated that if the doctor still felt that it was desirable to put the patients there he would obtain furniture, bedding, etc., and make the place comfortable. The doctor still adhering to his opinion, upon request of the agent, Mr. Moody of the almshouse had a fire built up, bed linen taken over and the place swept up and cleaned. Upon returning to the City Hall the doctor saw his patients again and informed the agent that the family were willing to go, and for the agent to get them there as soon as possible. Some second hand furniture was purchased at Waltham and carried to the hospital and at

eleven o'clock that night the rooms were in readiness to receive their patients, but the agent refused to move them in the dead of night on his own responsibility. Early the next morning a man was sent to the hospital to replenish the fire, and reported on his return that everything was all right. A team was secured, and under the immediate supervision of Dr. O'Reilly the removal of the Barthelmes family was made to the hospital with their own consent at noontime on a warm, sunny day. After arriving at the hospital the doctor thought it would be advisable to have a nurse to assist the mother and asked if the Board would be responsible for the pay if the family did not meet the bill. The agent assured him that it would, although Mr. Barthelmes told him that he would pay for one. When the agent left the physician had gone with the promise to return in a couple of hours with a nurse and with other assistance, as he felt it would be necessary to perform an operation, while the mother was in charge of the sick children. The disinfection of the infected house was begun immediately upon the return of the agent.

About five o'clock in the afternoon the agent returned to the hospital and found that the physician had not returned, the oldest child was dead and the parents nearly wild with grief. After trying to calm them and persuade them to do everything they could to save their third and last child, the agent left stating that he would return as soon as possible and bring help. He immediately called Dr. Frisbie for consultation as to the proper steps to be taken, and while talking together at West Newton they were greatly astonished to have Mr. Barthelmes appear beside them. He was told to immediately return to his wife and child, as they were supposed to be at the hospital. Word was at once sent to Dr. O'Reilly that he was needed here immediately.

The agent upon returning to the City Hall after supper found the doctor awaiting him and was greatly surprised to learn that Mr. Barthelmes, wife and living child were in the bake-shop, as they were unable to enter their house on account of the fumigation that was going on. Upon inquiring as to how they had returned it was found that they had crossed the fields from the hospital through a light snow to a carriage which he had kept waiting all the afternoon, an eighth of a mile distant. Mrs. Barthelmes was almost crazy, even threatening to take her life and that of her child, so that it was thought advisable to administer an opiate to quiet her nerves.

The Mayor was at once notified of the condition of affairs and a special meeting of the Board called for the next morning. Late in the evening the house, bake-shop, and houses in the same yard were roped off and a police officer stationed there day and night. At the meeting of the Board on the morning of the 24th, the action already taken was ratified, the police quarantine was ordered to be continued as long as was necessary and a trained diphtheria nurse put in the house, the family being under the care of Dr. Thayer, who had been called by Mr. Barthelmes upon his return. On the 27th the third little one died, leaving the family childless. The mother's throat showing signs of the same trouble, the quarantine and nurse were continued until Feb. 3rd, when Mrs. Barthelmes had sufficiently recovered to be about and out of danger. During the week the bake-shop had been thoroughly cleansed and all the cooked food destroyed. Feb. 3rd a sister of James Ryan was reported sick, the case resulting fatally on the 8th. On the 4th Michael Ryan was also reported sick but he recovered.

In view of the fact that Mr. Barthelmes visited so many families in various parts of the city it is fortunate that the disease did not spread any more than it did. Many may per-

haps feel inclined to doubt that the disease was carried from place to place as outlined in the foregoing account, yet a careful scrutiny into the history of each case shows that there is strong circumstantial evidence to induce that belief, and that in but one or two of the houses attacked could any local cause be found to which it could be ascribed, nor was there any other known exposure to the disease, and the inference may well be that there were others attacked with throat troubles which were not pronounced enough to be recognized. Mr. Barthelmes and his assistant thus became the innocent and at the time the unknown probable cause of the introduction of the disease into various parts of the city, as when they were first exposed to contamination the disease had not been recognized and no physician had been called. We do know, however, that Mr. Barthelmes came into direct communication with the specific poison of the first case, that he and his assistant visited all the families attacked and in from three to eight days thereafter (the usual time for development) the disease appeared. The clothes worn by both parties were greasy and dirty and the germs of the disease once in contact found rich soil in which to grow and develop. While the house of Mr. Barthelmes was dirty in the extreme, yet it may be considered doubtful if the disease would have appeared there had it not been brought from outside sources.

One family completely broken up by the loss of the mother and two children, leaving only an infant six months old to the care of the father; one family rendered completely childless and another almost so; two houses darkened and hearts made sore from the loss of bright and beautiful children; three others made anxious and burdened by the hand of sickness laid heavily upon them, besides those unknown circles shadowed by the intrusion of this unwelcome guest; eight families with nineteen cases and ten deaths; such is the record

of this dread disease so far as it is known to be linked in this chain of circumstantial evidence.

In March a second opportunity for an epidemic occurred. The first of the month a child was reported sick on River street, was afterward reported well, and the house disinfected. On the 23rd it was found that the child was evidently suffering from a relapse and had been taken care of by the mother without calling a physician for about a week. Four out of five of the other children had been attending school all the week. On the 24th by request of the attending physician a trained nurse was placed in charge and by night every one of the six children were suffering to a greater or less extent from the disease. The first case resulted fatally on the morning of the 25th, but the others all recovered, due no doubt in a great measure to the faithful care of their nurse. Upon consultation with the school authorities, the scholars attending the Franklin school were sent home on Monday the 25th without being allowed in the building, and the school closed for one week, as the April vacation came on the following week. The schoolhouse was then thoroughly fumigated and such of the school books as were known to have been used by the infected children were burned; afterwards the rooms and furniture, entries, privies and floors of the basement were thoroughly washed with a solution of corrosive sublimate, and the basements were thoroughly whitewashed. When it again became time to open the school, at the close of vacation, sixteen days had elapsed since there had been any exposure to the disease and no new cases had developed. As soon as the services of the nurse could be dispensed with here, another case had developed at Newton which required a nurse, and she was accordingly transferred there.

In another outbreak, upon the advice of the reporting physician, it was thought wise to place a police quarantine over

the infected tenement. Here there were two cases existing at the time of the Board's notification, one resulting fatally an hour after the officer went on duty and five hours after notice of the sickness was received, while the other died the second day after. A third case developed the day after the first two were reported, but it proved to be only a light case. One of the two fatal cases had evidently been in existence for nearly ten days before it was known what the disease was, the physician whom the family first employed evidently not recognizing it for some reason or other, or else not desiring to have the case on his hands. Fortunately no cases developed outside of this one family, although it was feared for some days that such would not be the result.

During the year 130 cases in 85 families with 29 deaths occurred in various parts of the city. While this may be a small number as compared with some of our sister places, yet for Newton it may be considered a heavy record. When the nature of this disease is considered, when its virulence, if allowed to go unrestricted is contemplated, surely the Board have been fully justified in taking all these precautionary measures. If, when so many homes have shivered at the touch of the invader, if, when death with its mailed hand has caused so many hearts to reel under its fierce and rapid blows, if, in the hour of anxiety and sorrow the work of the Board has tended to mitigate the force and prevent the spread of this terrible disease, then has all the labor, energy and money which has been put forth not been expended in vain. The Board feel that our citizens have looked to them to do all that is possible to prevent the inroads of diphtheria, and that feeling of confidence which has been engendered, the Board have endeavored to sustain, knowing if they did not they were censurable.

Membranous Croup.

Closely allied to and by many physicians considered the same as diphtheria, is another disease known as membranous croup. Several times in the experience of the Board cases of diphtheria followed after cases of membranous croup and *vice versa*. Inquiries were made of our sister Boards of Health and it was found that many of them had passed through the same experience. Authorities were consulted and it was found that some who stood high in the medical profession took the ground that membranous croup was only one form of diphtheria, while others equally high agreed that they were distinct diseases and that membranous croup was not contagious. The best authorities however, while admitting the difference in the two diseases, agreed as to the contagiousness of both and to the fact of true membranous croup being an exceedingly rare disease. Under these circumstances, without entering at all into the discussion as to whether they are the same or different diseases, the Board decided that for the protection of the public it was advisable to declare membranous croup a disease dangerous to public health and require prompt reportal and take such other precautions as may be deemed desirable. As reported to the Board there have been 12 cases in as many families with 11 deaths, which shows how exceedingly fatal this disease is.

The fact of membranous croup having always been considered a non-contagious disease by the community led to considerable criticism of the action of the Board, especially in requiring the disinfection of premises where the disease occurs. Accordingly Dr. Frisbie prepared and laid before the Board on Dec. 11th, the following paper, setting forth the reasons for believing that so far as the public welfare is concerned, membranous croup is analogous to diphtheria, and that the same

restrictive measures should be taken relative to isolation and disinfection.

"During the summer, I called the attention of this board to one disease that I felt ought to be added to the list of diseases which should be reported by the physicians to the Board of Health. That disease was membranous croup. Before and since that time this disease has been placed among diseases dangerous to public health, by town, city and state Boards of Health.

This has been classed with reportable diseases from the fact that some physicians believe it to be one form of diphtheria, even if diagnosed under the head of laryngeal diphtheria, trachial diphtheria, diphtheritic croup or membranous croup.

I gave it as my opinion at the time that true membranous croup was a distinct disease from diphtheria, resulting from a distinct cause: and farther, that I did not consider it infectious or contagious, although there is no doubt that membranous croup is sometimes followed by true diphtheria, but this results from another cause and a distinct infection.

Sometimes cases of *membranous croup* are reported to Boards of Health resulting fatally, or in recovery as the case may be, which are immediately followed by cases of true diphtheria, ending fatally, in other members of the same family.

To show the close connection between these two diseases, I will quote from the latest and perhaps the best monograph on diphtheria, by Dr. C. E. Billington. He writes as follows: "Moreover, it seems a very probable supposition that a particular case of disease, occurring in places in which diphtheria is endemic or epidemic, or in which septic influences are present, may begin as a local, non-infectious membranous croup and subsequently become infected by those agencies and thus con-

verted into true diphtheria, since croupous inflammation must furnish an especially favorable soil for such infection.' Again, after discussing the differences and similarity of these two diseases, he writes: 'Membranous croup as above described, and diphtheria, are two distinct affections. Simple membranous croup is a comparatively rare form of disease. In regions in which diphtheria is endemic or epidemic the two affections are so liable to be inter-complicated or confounded that the distinction is practically valueless.' And in reference to this same obscureness, in another place he says: 'Reasons have elsewhere been given for the belief that there is a membranous croup which is not diphtheria, but yet that under ordinary circumstances the two affections are so liable to be complicated or confounded that the diagnosis of the former can rarely be a positive one.'

One more quotation and I leave Dr. Billington, although I could quote from scores of pages, added words and testimony corroborative of what has already been given: 'While there may be, and probably is such a disease as acute non-specific membranous croup in children, there is not a single sign or symptom by which it can be distinguished from diphtheria beginning in the glottis. The only plan, therefore, comfortable with safety is to isolate every case in which there is even a suspicion that pseudo-membrane may be developed in the larynx, and then contradictory opinions (as to the identity or non-identity of the two diseases) may be entertained without injury to any one.'

I understand the State Board of Health classes membranous croup with diphtheria, as also do the Boards of Health of Boston, Lowell, Lynn, and many other cities of the Commonwealth, — that is, classes it with that disease in requiring the reporting of such cases to the Board of Health as one of the 'diseases dangerous to the public health.'

This board has taken the same course and included it among the diseases which must be reported. The testimony is so strong it appears to me obligatory upon Boards of Health to order the same restrictive and precautionary measures in cases of membranous croup that are pursued in cases of diphtheria.

Gentlemen, I bring this matter thus lengthily to your attention because some have taken exception to the action of the Board in including membranous croup with 'diseases dangerous to the public health,' and directing the same sanitary and precautionary measures as are required in cases of diphtheria. I have supported the opinion I gave when this matter was first brought to the attention of this Board, and the action then taken, by the opinion of the foremost writer on the subject and the position taken by the various Boards of Health in this Commonwealth."

Scarlet Fever.

Scarlet fever has been much less prevalent than for two years previous, there having been about the same number of cases as in 1886. It is not known that the sanitary condition of a house or premises around it, have any influence on this disease unless it may possibly be in controlling its severity. In fact, science as yet has not been able to settle upon any well recognized conditions for the inception of the disease although it has clearly shown many of the channels by which it may be spread and that isolation and proper disinfection controls and stops its progress. A study of the chart accompanying this report would apparently indicate that when scarlet fever is prevalent to an unusual extent, there seems to be a disappearance of diphtheria and *vice versa*. On the other hand when one prevails to a moderate extent only, the other seems to accompany it to an equal degree. To demonstrate whether there is really any connection in this manner between the two

diseases necessitates observations covering a series of years and there is not data enough at hand to reach any definite conclusions upon this matter.

Typhoid Fever.

The open winter of 1888-'89, evidently had some influence upon the prevalence of typhoid fever, for although this is pre-eminently a fall disease, yet cases of it were reported during all the winter and spring months, and in fact, in every month during the year except November. Its height was from the middle of July till the middle of September, a month or two earlier than is customary. While the number of cases was but a few less than during the previous year, their character was much more virulent and fatal. Unquestionably the unusually heavy rain-fall of the last two and a half years has aided the local causes in producing these results, by raising the level of the ground water to such an extent that the drainage of cesspools and the like, has often burst forth or else been brought so near to the surface that slight disturbances even of the soil would bring the deadly germs of this disease into active existence. Had it not been for the fact that more than half of the cases of typhoid reported were promptly removed by order of their physicians to the Cottage Hospital, where they could secure the very best of care and nursing, there is no knowing what proportions the death-rate from typhoid might have reached. All sections of the city were visited to some extent, although Thompsonville still seems to be one of the worst localities for developing this disease. No epidemic has existed and upon our atmospheric conditions much of the responsibility for our typhoid can be placed.

Disinfection.

Too much care cannot be taken in preventing the spread of the various diseases considered dangerous to the public health.

The Board do not feel justified in interfering with the instructions or recommendations of the physician in charge, during a case of sickness, although frequently additional remedies or precautions are suggested as being desirable, which are usually accepted and adopted. But when the physician surrenders the case, the attention of this department is given to it in such cases as require it.

In typhoid fever after the use of chlorides or other disinfectants recommended by the physician, about the only thing to be suggested has been the burying of the dejections, in places where this could be done with safety.

In diphtheria, membranous croup, and scarlet fever, however, placards are put up on the house with the name of the disease, and these are not removed until word has been received from the physician that the house is ready for disinfection. The method employed is to fumigate the house thoroughly with burning sulphur. In doing this work it has been found that there is no room or series of rooms that are or that can be made absolutely air-tight. In consequence there is always an escape of some of the smoke, varying in quantity according as the rooms are more or less tight. To ascertain the quantity of sulphur necessary to be used, the cubic air space of the rooms to be fumigated is first determined and three pounds of sulphur taken for every 1000 cu. ft. of space. To this is added sufficient sulphur to allow for what will inevitably escape.

Many times the statement has been made that altogether too much sulphur is used for the purpose required. In answer to this it may be well to state that experiments have proved that the use of from one to two pounds per 1000 cu. ft. of air space is practically of no value whatever. The use of over two and less than three pounds is of some value, but its extent depends on circumstances that can not be estimated for. But all the better authorities and all expert testimony agree that the use of

three to four pounds gives a reasonable guarantee of success and that nothing less than this quantity should ever be used. This disinfection of premises at the close of a case of sickness has received much thought and attention and the rule adopted by this Board has been the same as that adopted by Boston, New York and other places, and also promulgated by the American Public Health Association, composed of the most well-known experts in sanitary measures in the country. The only point in which a difference is made between Newton and Boston is on the question as to who shall bear the expense. Boston fumigates at its own expense when requested to do so in writing by the householder; at other times it is at the expense of the householder. The majority of our citizens contend, however, that disinfection is largely a public protective measure, and that as they are obliged by the statutes to have their premises disinfected to the satisfaction of the Board of Health, and as the city assumes no risk of loss or injury to articles disinfected, it is only right and just that the Board should bear the cost of the disinfection, taking care that it shall be done thoroughly and with the least amount of damage possible. In this view the Board have acquiesced and have endeavored to do their work with as little annoyance as possible, and at no expense to the individual.

Hospital for Contagious Diseases.

The lack of proper hospital accommodations for the care of persons sick with diphtheria and scarlet fever, has been forcibly brought to the attention of the Board during the past year. Several cases have been sent to the Boston City Hospital and cared for at our expense, but the admittance of such patients by them is only an act of courtesy and is liable to be refused at any time. Many times had we possessed the proper accommodations, cases of diphtheria would have been removed

immediately from their poor surroundings to where they could receive care and treatment that was practically impossible in the average home. Could this have been done at the proper stage of the disease probably several lives would have been saved. It is therefore very essential that something should be done as soon as possible to have suitable accommodations provided in our own city for such diseases. The trustees of the Cottage Hospital have offered to give the use of the land free, and provide the proper attendance and nursing at a nominal cost, provided the city will erect the buildings. Early in May a communication was sent from this Board to your Honorable body indorsing the above and requesting your favorable consideration of the same. We understand that the committee having this proposition before it, has as yet submitted no report. We hope that early in the coming year you will take favorable action towards providing a ward for contagious diseases.

Ashes.

The advisability of placing the collection of ashes under the control of this Board was brought to its attention early in the year. It was argued that the Highway Department needed all their men and teams for the legitimate work of that department. The removal of ashes and other refuse was considered to be a health measure just as much as the removal of night-soil or collection and removal of swill.

If the work of removing ashes was to be placed in charge of this Board, either the work must be done by contract, or else a thoroughly equipped Health Department plant must be furnished. The latter course would necessitate the erection of stables and other buildings, the purchase of horses, teams and other equipments, and the employment of a considerable number of men to perform the work. In case the first method should be decided upon, several petitions were presented asking

that before letting out the contract, the Board advertise for proposals. The argument in favor of this method was that under our method of requiring parties to set out their barrels, a contractor could do the work just as efficiently and with much less cost to the city.

In order to get at the methods pursued by our sister cities, a set of questions was prepared and sent out and answers requested. Replies were received from twenty-one cities and one town. Of these twenty-two places, six had no collections at all. The health department had control of the work in ten places and the highway in six, the work being done in thirteen places by the city or town and in only three by contract. One of these three was in favor of the work being done by the city, and a second also, unless the contractor was paid enough to force him to attend to the work, leaving only one city unqualifiedly in favor of contract work. With these results and experiences before them, the Board carefully considered the question of change of management and finally decided that it would be as well to let things remain as they were until such time as the growth and requirements of the city shall demand a complete working department, which can then embrace all work legitimately appertaining to this Board.

The removal of ashes has therefore been carried along by the Highway Department in its usual admirable manner, giving complete satisfaction to our citizens so far as is known. The great trouble has been to impress upon the householder and more particularly the servants, the absolute necessity of keeping the garbage out of the ash barrel. No dump can be allowed to receive decaying vegetable matter, unless desirous of receiving complaints relative to the same, and strict instructions have been given the teamsters to refuse all ashes or refuse containing the same.

Co-operation of Physicians.

Our physicians have evidently appreciated the work of the Board during the past year, and the difficulties it has had to contend with. They have followed closely the lines of work adopted by this Board with contagious diseases and have greatly assisted it by the prompt reportal of all cases coming under their observation. They have also greatly aided the Board by carefully instructing their patients in the use of disinfectants and the value and necessity of disinfection. Many requests have also been received from them to examine the sanitary condition of houses where the recovery of their patient was often delayed or vitiated in some mysterious manner. It is with pleasure that the Board acknowledge the many kind acts and information received at the hands of the physicians. It is to be hoped that the pleasant relations now existing will be continued and that the same care will be taken with those diseases which may by neglect become epidemic as is taken with those that are considered more severe and important.

Cottage Hospital.

Although a comparatively new institution, this hospital has outgrown its accommodations. While distinctively a private corporation, yet the benefits derived have been so largely public that it is not inappropriate to say a few words here in reference to it. During the last year the beds at one time were nearly all filled with typhoid fever patients. Many of the cases were of a very severe type, and but for the unceasing care and intelligent work of the attendants, many more fatalities would have to be recorded than has been the case. The majority of the typhoid patients were poor people, whose surroundings were not of the best and would have worked against them, had they remained there. In other departments as well, the work has been successfully carried forward by the

efficient matron and her assistants, and our city can well feel proud of this noble institution, which is doing so much to relieve the pain and suffering in our midst by its own special line of work.

Drainage of Wet Lands.

A subject to which the Board has devoted much time and labor during the past year, has been the drainage of lands coming under the provisions of what is known as the wet land act. The method of procedure and the steps necessary to be taken have been determined and carried out under the advice and direction of the City Solicitor. There are many places in the various wards where lands having insufficient drainage have either been built upon or adjacent thereto. The owners have now begun to realize the extent of the annoyance or injury that is caused them, and the dangers to health which exist, and therefore apply to the Board for relief, expecting in many instances, that the city will abate the trouble without any expense to them. It is, consequently, a delicate question for the Board to decide where the line between public necessity and private improvement is to be drawn, as it is this which practically determines the amount of the assessments which are levied upon the completion of the work. The City Solicitor has decided that the only way by which such troubles can be remedied, where more than one estate is affected, is through the Board of Health acting in accordance with Chap. 80, Sections 28 to 33 of the Public Statutes. Under this act seven petitions have been prepared and presented to the Board for their consideration. Upon five of these petitions the parties interested have been heard as to the necessity and advisability of this Board abating the nuisance complained of. In two instances (Knowles street and Clinton street) the Board have completed the work of abatement and have levied the cost of the same upon the parties benefited. In both of these nuisances the tes-

timony of the complainants was reinforced by the fact that several cases of diphtheria had developed in the immediate vicinity. In one other case an appropriation has been granted and the work will be done in the spring. No definite action has been taken yet on the other petitions. Undoubtedly, as there are a great many places that come under the provisions of this act, petitions having similar objects in view will be presented from time to time, and the Board be obliged to ask for an appropriation to do the work.

Field Day.

The usual custom of having out-door or field meetings has been adhered to during the past year. In the latter part of May a circle of the entire city was made, visiting many places and examining the general sanitary condition of the city as covered by the route taken. In September, a similar meeting was held, although not of so extensive a character. In addition to these, several short trips were made, which were necessitated by the filing of drainage petitions. These meetings are of great practical value, and as the work of the Board develops, their number will necessarily be increased.

Glanders.

During the year two suspicious cases of sick horses were reported to the Board, the first being by the surgeon having it in charge. Dr. Winchester, State Cattle Commissioner, was immediately notified in both cases as required by law. In the first case he coincided with the veterinary that it was a very suspicious case, and ordered it isolated and put through a special course of treatment. In two weeks the symptoms of glanders had all disappeared and the animal was allowed to leave quarantine and be put to work.

The other case was so clear and positive in the mind of the veterinary called by the Board, that the owner decided to have

the animal killed, which was done. Dr. Winchester upon examining the septum of the nostril after the horse was killed, also pronounced it a clear case of glanders. In this instance the evidence showed that the horse had been ailing for nearly three months, and during that time had frequently drank at the public fountains. The stable premises were thoroughly disinfected, and so far as is known, no other cases have developed from it.

House-Offal.

The contract for the collection of house-offal expired on the first of May. During the existence of this contract, with the exception of the last six months, there had been a great many complaints as to the efficiency of the work and it certainly had not given the satisfaction that was expected of it. The trouble undoubtedly was due in a large measure to the fact that the contractor had made a losing bargain. Any one who is working at a loss is not apt to give the same energy and efficiency as when he knows that he has a good thing and is getting fairly well paid for the same. There was, however, a very marked improvement in the last six months, owing to the fact that the Board had granted an increase in the compensation. As the time approached for deciding whether the contract should be renewed or not, the same points arose as had developed in connection with the removal of ashes and especially as to the advisability of having the work done by the city.

At the time that answers were requested relative to ashes, similar answers were requested relative to house-offal. Of the twenty-three places sending answers only three had no collections. Of the other twenty places, the city through various departments performed the work entirely in twelve cases, and in two cases it was performed by a combination of city and contract work. In four places it was done entirely by contract while the remaining two places had voluntary collections. Thirteen

places expressed a preference for city work alone, one for contract work entirely, one for contract work when paid sufficiently, and one for either method in preference to voluntary collections. After a thorough discussion of the subject the Board voted early in April to advertise for proposals for a term of three years from May 1st, 1889. Specifications for the same were drawn up and approved by the Board which increased the amount of work to be done over preceding years and required greater efficiency in performing the same. Only two parties offered bids, Mr. Mague at the rate of \$3,000 per year and the Messrs. Gannon at the rate of \$1,680 per year.

From the investigations made by a committee appointed in the autumn of 1888, and the answers obtained from sister cities, the Board had gained an approximate idea of what the cost of collections should be. They, therefore, unanimously voted to reject both bids, one because it was evidently too high, and the other because no contractor could afford to take it at the price named and give the efficiency that the Board desired.

A committee was appointed to look into the matter still farther, interview the parties desiring to contract and report to the Board. Both of the previous bidders appeared before the committee and gave the figures upon which they based their estimates. It was found that in the one case Mr. Mague had looked at the future with doubtful eyes and did not desire to get caught again in a losing contract. Mr. Gannon had formed his ideas from what Mr. Mague had been doing and receiving, and thought he could do the work a trifle cheaper than Mr. Mague; he also acknowledged that he expected the Board would be honorable enough to protect him if he had made a mistake in his calculations, and that they would not allow him to lose anything.

From the developments at these hearings the committee decided that a one year's contract would be more advantageous to the city than a three years', and so reported. The Board coincided in this opinion and asked for proposals upon that basis. Only one bid was offered, that of Mr. Mague at \$2,400, Mr. Gannon declining to bid. The Board finally decided to accept Mr. Mague's bid and awarded him the contract.

While there have undoubtedly been times this season when the men on the work have been negligent and careless, yet the contractor has, as far as we know, attended promptly to all complaints received, which have been comparatively few, and the policy of the Board in not trying to get work done at starvation prices has been fully justified by the freedom from annoying and well grounded complaints to the Board, and the greater efficiency received by the citizens in the collections.

Night-Soil.

The removal of night-soil has been by contract with Wm. H. Mague, the same having been made in 1888, and as far as we know, has been attended to faithfully, the system employed being that known as the odorless. But few complaints have been received from our citizens and the greater part of them have been shown upon investigation to be owing to no fault of the contractor. Several complaints have been made months after the work was performed and no investigation of the true facts could be made. The majority of the complaints seem to be on account of the cost, claiming that the cesspool does not hold as many loads as has been billed to them. Invariably, on receipt of such a complaint, the next work has been done in the presence of our Agent, especial care being taken to see that the teams were properly emptied and filled, and as yet, in no instance has the contractor's count or loading been found at fault, on the contrary, it has always been in favor of the citizen. It has often been the case that parties would measure

the cesspool and upon comparing the cubic capacity with the number and capacity of the loads would say immediately that a mistake had been made. They forget that the use of the cesspool has filled the ground for a large distance around it and that when it is emptied a considerable portion of this leaching will run back into the cesspool and be removed at the same time. In such cases, if parties would superintend the pumping once, they would then have some definite basis upon which to work. Of course no one is infallible and errors may creep in, but when such has been shown to be the case, the contractor has always shown a willingness to make all reparation possible.

Parties who have sufficient land for that purpose have only in a few instances been denied the right to empty their vaults or cesspools under the restrictions [imposed by the Board. Generally these restrictions are cheerfully obeyed but in some cases considerable fault has been found because of them. In a few districts, however, the Board have taken action and hereafter no private permits will be given. When the pollution of the soil with disease germs is considered in its relation to health, it may well be questioned if all permits ought not to be refused.

Nuisances.

The complaints received relative to alleged nuisances have been somewhat in excess of the usual number and have in many cases been caused by the large amount of ground water, and have been abated as the ground water was lowered.

Singular as it may seem, some of the complaints made to this Board have been prompted by ill-feeling between neighbors. While the Board are often justified and even ought to take action, in order to induce people to do what is right for the public welfare, yet the nuisance may have existed for years

and would perhaps have continued to for years to come, unless accidentally visited by this Board, had it not been for trouble arising between the parties directly interested. Frequently in such cases as these, the work done by this Board has allayed the ill-feeling, and the parties have become reconciled once more.

A great many places have been examined and nuisances abated without our receiving any complaint, and then it is sometimes difficult to make the derelict individual believe that it is done without instigation or animus on the part of anyone.

This work has required 1563 visits from the Agent and 259 letters, which together with the inspections of plumbing make a total of 3254 visits, 336 letters and 36 Board meetings attended.

Plumbing.

No change has been made in the rules governing plumbing during the year. The inspection has been followed up as well as the time which the Agent has been obliged to devote to other work, would allow. The rules have been adhered to by all of the plumbers except one, unless in one or two minor points, which were corrected upon their attention being called to them. The one exception we are glad to say was not one of our own plumbers, but one who claimed to be located in Boston. In this case the joints were filled with cold lead and putty and sometimes on the under side with nothing but oakum; the vents were placed a long distance away from the traps and the work was of the most inferior style. Upon being notified of his violation of the rules, the blame was put upon the journeyman sent out to do the work, and a promise made to rectify all errors. Since that time we understand the plumber has not been near the work. No one in the business, that we can find, ever heard of him, and the owner states that he has been unable to locate him since receiving notice that the work was not all right. In consequence of this, the owner finally engaged

a Newton plumber to finish the job, and the work was made as near right as possible. During the year the Agent has made 1691 visits and has written 77 letters, besides attending to the usual verbal requests, decisions and mailing of blanks and rules.

As intimated in the last report the call for inspection of old plumbing has increased. Many houses have received inspections on account of sickness arising therein, and many others because their occupants were afraid that something might not be in good condition. As usual the most common faults have been pan closets, holding as they surely will, after any considerable use, a deposit of fæcal and other matter which will surely and slowly send out the poison that enervates and reduces the system and brings it into the right condition for propagating the seeds of any disease brought into contact with it; lead trays, saturated with urine, emitting at all times a nasty and unwholesome smell; S or 1-2 S traps which are liable to be siphoned out at any time; and fixtures without any trap at all. As fast as possible the Board are endeavoring to induce owners to take out all the old style of plumbing in vogue during the popularity of the pan closet and having it replaced with the latest improvements of sanitary science.

Sewerage.

The question of sewerage is becoming more vitally important year by year. There are sections in the centres of each village where the land has become so valuable that the owners can no longer afford to hold it and in consequence the lots are rapidly becoming smaller in area and new buildings are being rapidly erected upon them. The dwelling is beginning to give way to the block and increased demands are constantly being made upon the soil for the reception of house drainage which may or may not be rendered harmless through natural agencies,

Wards One and Seven especially cry for immediate relief and the pollution of the soil has now become a very serious question. Under our present cesspool system there is no telling how far the leaching from them has reached nor to what extent the ground may have become impregnated with the germs of disease. Much of the soil of Newton is of no use whatever in purifying sewage matter, especially on the hills, as the clay sub-soil, which holds water like a sponge, and refuses to aid in clarifying, is reached at a depth of from two to five feet. In other places, where sand is found, it is of the "quick" character and hardens up immediately when the water touches it, thus making the cesspool constructed in it almost tight and of no use whatever in absorbing the leachings from the same. While the cesspool may work all right under ordinary conditions, yet when there comes an unusually heavy rain-fall as during the last two years, trouble is sure to arise. Old cesspools refuse to act and have to be frequently pumped out, and in many cases the sewage even bursts forth upon the surface. For these reasons as well as others our citizens have freely called upon the department to aid in devising ways to give them relief. When therefore, it has become necessary to abandon the old cesspool and put in the new, or when encroachments are made upon the territory which has been pre-empted by the cesspool, the inevitable upturning and utilizing of this polluted soil must in itself become dangerous to public health and until all such soil has been thoroughly exposed to oxygenizing influences and completely renovated and purified, no one can say that there is absolute safety.

But while we can condemn the open leaching cesspool on principle we are compelled to continue its use for a few years longer, until we can construct a system of sewerage. Until now the trouble has been to decide upon what to do with sewage after getting it into the sewers. The legislature had

given to Newton the privilege of discharging into the Charles River near the Boston line, *provided that no nuisance be made*. But as this was impossible from the shallowness of the river and the flow of the tides it would have been just as well for us never to have had the privilege.

Fortunately, however, this question of the final disposal of our sewage has at last been settled and in a way that will undoubtedly prove satisfactory. At the last session of the legislature the report of the State Board of Health was adopted recommending the construction of a Metropolitan sewer to connect with the Boston system. This contemplates the building of a main sewer through Brighton and along the valley of the Charles River to Waltham receiving the sewage of Brighton, Newton, Watertown and Waltham, and carrying it into the present Boston system, whose outlet is at Moon Island. Under this act the commissioners have been appointed and they are now busily engaged in getting out the detailed plans and settling all the preliminary work. During the coming year the work will undoubtedly be commenced and be pushed forward as rapidly as possible to completion.

It now remains for Newton to design and perfect her plans for the local sewers as soon as the grades and points at which the laterals can enter, have been decided upon. The more rapidly this work is pushed and the work of construction completed, the sooner will Newton be enabled to reap the benefits accruing from a system of sewerage, and many who would like to locate here but have been deterred from doing so on account of the lack of sewerage, will no longer hesitate to become residents of our beautiful city.

Winthrop Avenue.

For several years this locality has been an eyesore to every one passing by and a menace to the health of those residing in the vicinity. Several attempts had been made to induce the

owners to abate the nuisance, but without avail, the principal objection being the expense and the uncertainty of success in the methods proposed. In 1888, Mr. Eddy, one of the owners, experimented with a drain which proved successful for a few months and then the nuisance became as bad as before. In 1889, Mr. Eddy, feeling that the cesspool on his place was not causing all the mischief asked the Board to co-operate in behalf of the city with himself and other citizens in a scheme for the abatement of the nuisance, which request was acceded to by the Board, May 28th. During the summer and early fall, the scheme was carried out by Mr. Eddy and though the Board have not as yet accepted the work, the drainage appears to be satisfactory and the nuisance abated.

Members.

With the retirement of Mayor Kimball from official position, the Board lost the services of the one who had been the most instrumental in its formation. He had given a great deal of his time and much earnest thought to the advancement of the sanitary interests of the city and no one could have shown more zeal in this direction. He had always endeavored to be a leader and to keep in advance of the needs of the city. The Board regretted exceedingly the severing of the many pleasant ties which had existed between them and trust that remembrance of his efficient work on this Board will be among the pleasant memories of his life.

While losing one valued member, the Board were exceedingly fortunate in having one who was thoroughly acquainted with the work to succeed him. Mayor Burr had already been on the Board for two years as the member from the Common Council and in him was found a worthy successor to his predecessor.

The other changes in the Board were in the Aldermanic representation and resulted from the fact that they could not give the necessary time.

Acknowledgments.

It is one of the most agreeable duties devolving upon the Board to acknowledge at this time the many courteous acts extended to them by His Honor the Mayor, the members of the City Government, the heads of the different departments, the members of the police force for their kind co-operation in times of distress and danger, our sister Boards of Health, Arthur Hudson, Esq., and many others, for which the Board feel greatly indebted.

Respectfully submitted,

For the Board of Health,

WM. S. FRENCH, *Clerk.*

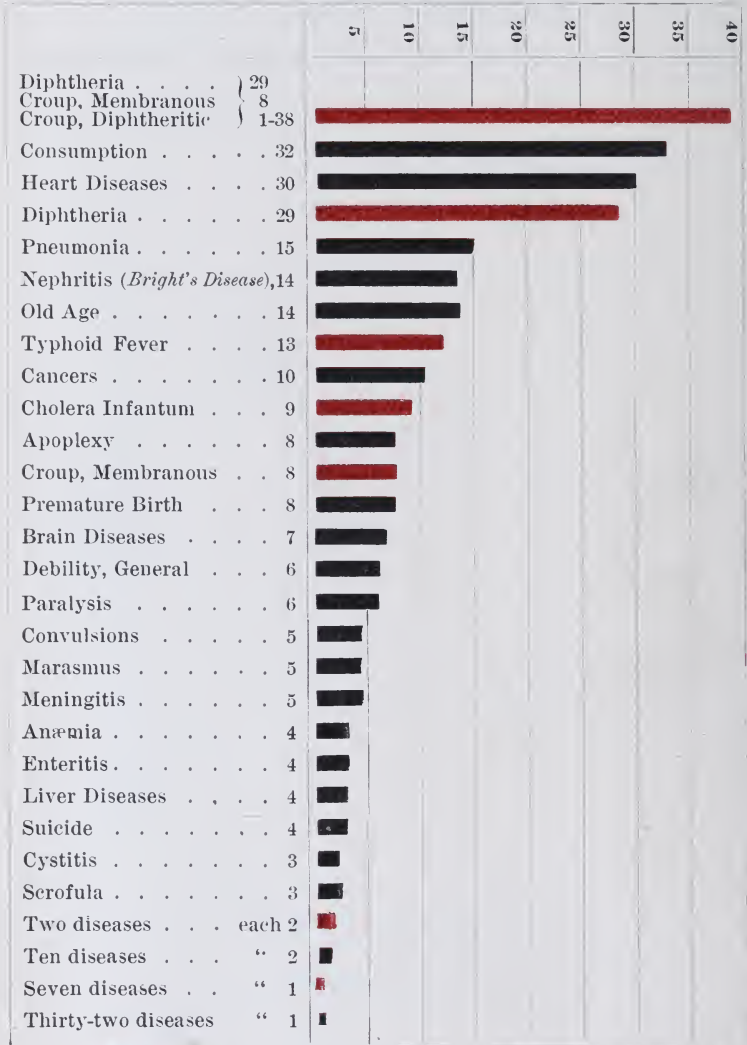
PUBLIC IMPROVEMENTS AND OTHER STATISTICS.

Population estimated	21,553
Death rate per 1000 in 1889	14.99
Area of city in acres	11,600
“ “ parks “ “	40
Gas, miles of mains laid	50
“ capacity of holders in cubic feet	370,000
Lights, number of electric { arc incandescent	⁷⁶ 176 } 252
“ “ gas	758
“ “ oil	226
Number of churches	33
“ “ dwellings	4,000
“ “ volumes in public libraries	36,171
“ “ public schools	21
“ “ pupils attending	3,570
“ “ teachers	106
“ “ private schools	14
Railways, miles of steam	125
“ “ street	2
Streets, average width of main	50 to 70 ft.
“ miles of accepted	110
“ “ unaccepted	30
“ “ graveled	90
“ “ macadamized	50
“ “ concrete sidewalks	47
“ “ graveled “	60
Telephones, number of, in use by citizens	344
“ “ controlled by city	26

Water, capacity of reservoir in gallons	.	.	15,000,000
daily average consumption in gallons	.		853,435
“ pumping capacity of engines in gallons			6,000,000
number of fire hydrants	.	.	606
“ “ services in use	.	.	4,203
“ “ miles of main laid	.	.	90.2

TABLE II.

Comparative View of the Causes of Death during the Year 1889.



Deaths from Zymotic Diseases.

Deaths from Other Diseases.

TABLE III.

Causes of Death in each Month as Registered by the City Clerk,
Arranged Alphabetically in Classes.

DISEASES.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.
I. ZYMOTIC.													
Alcoholism	..	..	..	..	..	..	1	..	..	..	..	..	1
Cholera Infantum	..	..	..	..	..	..	4	3	1	3	..	..	9
Croup	1	..	..	..	..	..	1	..	..	..	..	..	2
Croup, Diphtheritic	..	..	..	..	..	..	..	..	1	..	..	..	1
Croup, Membranous	1	..	..	..	..	..	..	3	1	1	2	1	8
Diarrhoea	..	..	..	..	..	..	1	..	1	..	..	..	1
Diphtheria	9	4	2	3	2	3	..	..	..	3	3	..	29
Fever, Scarlet	..	..	..	..	..	..	..	..	..	..	1	..	1
Fever, Typhoid	..	2	1	1	1	1	1	1	3	..	1	1	13
Purpura Hemorrhagica	..	1	..	..	..	..	..	..	..	..	..	..	1
Pyæmia	..	..	..	1	..	1	..	..	..	..	..	..	2
Septicæmia	1	..	..	..	..	..	..	..	..	..	..	..	1
Whooping Cough	..	..	..	..	..	..	..	1	..	..	..	..	1
II. CONSTITUTIONAL.													
Anæmia	..	..	..	..	1	2	..	..	..	1	..	..	4
Cancer of Breast	..	..	1	..	..	..	..	..	..	..	..	..	1
Cancer of Intestines	..	..	..	..	..	..	..	1	..	..	..	..	1
Cancer of Liver	..	1	..	..	..	..	1	..	..	..	..	..	2
Cancer of Stomach	..	..	1	..	..	..	..	..	1	..	..	..	2
Cancer of Uterus	..	..	..	..	..	..	..	..	..	..	1	..	1
Cancer, (not stated)	..	..	..	..	..	..	..	1	2	..	..	..	3
Consumption	..	1	2	6	1	5	2	1	3	3	2	6	32
Dropsy	1	..	1	..	..	..	..	..	..	..	..	..	2
Leucocythæmia	..	..	..	..	..	..	1	..	..	..	..	..	1
Marasmus	..	2	..	..	..	..	..	..	1	1	1	..	5
Scrofula	..	..	..	..	1	..	..	..	2	..	..	..	3
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	1	1
Tuberculosis	..	..	..	..	..	1	..	..	..	..	..	..	1
III. LOCAL.													
<i>Nervous.</i>													
Apoplexy	..	1	..	..	..	2	..	..	..	1	..	4	8
Brain, Disease of	..	..	..	..	1	..	..	..	1	1	..	..	3
Brain Fever	..	..	..	..	..	..	..	..	..	..	..	1	1
Brain, Hemorrhage of	..	..	..	..	..	..	..	..	..	..	..	1	1
Brain, Softening of	1	..	..	..	..	..	..	..	..	..	..	..	1
Brain, Tumor of	..	..	..	..	..	..	..	1	..	..	..	..	1
Convulsions	..	..	1	..	1	..	..	2	..	..	..	..	5
Meningitis	..	..	..	..	1	..	3	..	..	..	..	1	5
Paralysis	..	2	..	..	1	2	..	..	1	..	..	..	6
Sunstroke	..	..	..	..	..	1	..	..	..	..	..	..	1
Tetanus	..	..	..	1	..	..	..	..	..	..	..	..	1
<i>Circulatory.</i>													
Endocarditis	..	..	..	1	..	..	..	..	..	..	..	..	1
Gangrene of Leg	..	1	..	..	..	..	..	..	..	..	..	..	1
Heart, Disease of	3	1	..	1	..	4	1	..	..	4	2	1	17
Heart, Dropsy of	..	..	..	..	..	..	..	..	..	1	..	..	1
Heart Failure	..	1	1	..	..	1	..	..	..	..	1	1	5
Heart, Hypertrophy of	..	2	..	..	..	..	1	..	..	..	..	..	3
Heart, Paralysis of	2	..	1	..	..	..	..	..	..	..	..	..	3
Heart, Rupture of	..	..	..	..	..	..	1	..	..	..	..	..	1
Pericarditis	..	..	..	..	..	..	..	..	..	1	..	..	1

Table III—Continued.

DISEASES.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.
<i>Respiratory.</i>													
Apnoea	..	..	..	..	1	..	..	..	..	..	..	..	1
Bronchitis	..	..	1	..	..	..	..	..	..	..	1	..	2
Empyema	..	..	1	..	..	..	..	..	..	..	1	..	1
Hemorrhage, Internal	1	..	..	..	..	..	..	..	..	..	..	..	1
Edema of Glottis	..	1	..	..	..	..	..	..	..	..	..	..	1
Edema of Lungs	..	..	..	..	..	..	..	1	..	..	1	..	2
Pneumonia	1	3	1	..	2	..	..	1	1	1	2	3	15
<i>Digestive.</i>													
Ascites	..	..	..	..	..	..	1	..	..	..	..	..	1
Bowels, Inflammation of	..	..	..	..	1	..	..	..	..	..	..	..	1
Enteritis	..	..	..	..	..	..	1	1	2	..	..	..	4
Fever, Gastric	..	..	..	..	..	1	..	..	..	..	..	..	1
Gastritis	..	..	..	..	..	1	..	1	..	..	..	..	2
Hepatitis	..	..	..	..	..	..	1	..	..	..	..	..	1
Indigestion	..	..	..	..	..	..	..	1	..	..	..	..	1
Liver, Abscess of	..	1	..	..	..	..	..	..	..	..	..	..	1
Liver, Cirrhosis of	..	..	1	..	..	..	..	..	..	..	..	..	1
Liver, Congestion of	1	..	..	..	..	..	..	..	..	..	..	..	1
Liver, Enlargement of	..	..	..	..	..	1	..	..	..	..	..	..	1
Mal-assimilation	..	..	1	..	..	..	..	..	..	..	..	..	1
Peritonitis	..	1	..	1	..	..	..	..	..	..	..	..	2
Stomatitis	..	..	..	..	1	..	..	..	..	..	..	..	1
<i>Miscellaneous.</i>													
Cystitis	..	..	..	1	..	..	1	..	..	..	1	..	3
Diabetes	..	..	..	..	..	..	..	..	..	1	..	..	1
Hip Disease	..	..	..	..	..	..	..	..	..	..	..	1	1
Kidneys, Abscess of	..	..	..	..	..	..	..	..	..	1	..	..	1
Nephritis (Bright's Disease)	1	5	3	1	..	1	1	..	..	..	1	1	14
Prostrate, Abscess of	..	1	..	..	..	..	..	..	..	..	..	..	1
Uræmia	..	..	..	..	..	..	..	..	..	..	1	..	1
IV. DEVELOPMENTAL.													
Childbirth	..	..	..	..	1	..	..	..	..	..	..	..	1
Cyanosis	..	1	..	..	..	..	1	..	..	..	..	..	2
Debility, General	..	..	1	1	..	..	2	2	..	..	..	..	6
Eclampsia	..	..	..	1	..	..	..	..	..	..	..	..	1
Eclampsia, Puerperal	..	..	1	..	..	..	..	..	..	..	..	..	1
Exhaustion	..	..	..	..	..	..	..	1	..	..	..	..	1
Inanition	..	..	1	..	..	..	..	1	..	..	..	..	2
Old Age	1	2	1	..	..	3	1	2	1	..	3	..	14
Premature Birth	..	1	..	1	..	..	1	2	..	2	..	1	8
V. VIOLENT.													
Accident, Fall	..	1	..	..	..	..	..	..	..	..	..	..	1
Accident, Railroad	..	..	..	..	..	..	..	1	..	..	..	..	1
Asphyxia	..	..	..	..	..	..	..	..	1	..	..	..	1
Brain, Concussion of	..	..	..	..	1	..	..	..	..	..	..	..	1
Drowning	..	..	..	..	..	2	..	..	..	..	..	..	2
Poison	..	..	..	..	..	..	1	..	..	..	..	..	1
Suffocation	..	..	..	..	..	1	..	..	..	..	1	..	2
Suicide, Pistol Shot	1	..	1	..	..	..	..	..	..	..	..	1	3
Suicide, Poison	..	..	..	..	..	..	1	..	..	..	..	..	1
Traumatic Injury	..	..	..	..	..	..	..	..	..	1	..	..	1

DISEASES.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.
SUMMARY.													
Zymotic	12	7	3	5	3	5	7	7	6	6	7	2	70
Constitutional	1	4	5	6	3	3	4	3	9	5	13	8	59
Local	10	20	10	6	9	14	10	9	5	10	11	16	130
Developmental	1	4	4	3	1	3	5	2	2	2	3	1	36
Violent	1	1	1	..	1	3	2	1	1	..	2	1	14
Total	25	36	23	20	17	33	28	27	23	23	26	28	309
Still-born	..	2	..	1	2	1	..	3	..	3	1	1	14
Grand Total	25	38	23	21	19	34	28	30	23	26	27	29	323

TABLE IV.

Deaths during the Year 1889, by Sex, Condition, Color, Nativity,
Parentage, and Months.

	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.
Total Deaths . . .	25	38	23	21	19	34	28	30	23	26	27	29	323
SEX:													
Males	11	20	10	11	10	19	14	20	12	11	10	10	158
Females	14	18	13	10	9	15	14	10	11	15	17	19	165
CONDITION:													
Single	18	19	9	13	13	9	16	22	14	20	15	11	179
Married	5	11	7	6	3	13	9	5	7	4	8	14	92
Widows	1	5	7	2	2	7	1	3	2	2	3	2	37
Widowers	1	3	-	-	1	5	2	-	-	-	1	2	15
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-
COLOR:													
White	25	38	23	21	19	34	28	30	23	24	26	29	320
Colored	-	-	-	-	-	-	-	-	-	2	1	-	3
NATIVITY:													
Newton	13	11	5	13	10	6	13	16	11	13	7	7	125
Massachusetts	7	10	11	4	4	7	8	3	9	7	10	10	90
Other States	2	5	3	2	-	4	-	2	1	2	3	2	26
England	1	-	-	-	1	3	1	3	-	-	1	-	10
Ireland	2	9	2	1	3	11	4	3	1	2	5	7	50
Scotland	-	1	-	-	-	-	-	-	-	-	-	-	1
Germany	-	-	-	-	-	-	1	-	-	-	-	-	1
British America	-	2	-	1	1	2	-	1	1	1	1	3	13
Other Countries	-	-	1	-	-	-	1	1	-	-	-	-	3
Unknown	-	-	1	-	-	1	-	1	-	1	-	-	4
PARENTAGE:													
America	13	17	11	11	4	12	9	11	9	12	14	9	132
England	1	1	2	-	1	4	3	3	2	-	1	-	18
Ireland	3	11	4	7	6	14	8	10	9	3	8	13	96
Scotland	-	1	-	-	-	-	-	1	1	-	-	-	3
Germany	-	-	-	-	-	-	1	-	-	-	-	-	1
British America	2	5	2	-	5	2	1	1	1	3	1	4	28
Other Countries	-	-	-	-	-	-	1	-	-	1	-	-	2
Mixed	5	2	1	3	3	1	4	2	1	6	2	2	32
Unknown	1	1	3	-	-	1	-	2	-	1	1	1	11

TABLE V.

Mortality arranged by Classes for the Last Five Years, together with Percentages to Total Mortality and Rate per 1000 Inhabitants.

CLASSES.	1889.			1888.			1887.			1886.			1885.		
	Number.	Percentage of Deaths to Total Mortality.	Rate per 1000 Inhabitants.	Number.	Percentage of Deaths to Total Mortality.	Rate per 1000 Inhabitants.	Number.	Percentage of Deaths to Total Mortality.	Rate per 1000 Inhabitants.	Number.	Percentage of Deaths to Total Mortality.	Rate per 1000 Inhabitants.	Number.	Percentage of Deaths to Total Mortality.	Rate per 1000 Inhabitants.
Zymotic	70	21.07	3.25	51	14.82	2.42	49	15.26	2.37	34	12.36	1.68	36	13.14	1.82
Constitutional . .	59	18.27	2.74	56	16.28	2.65	51	15.89	2.47	53	19.28	2.62	63	22.99	3.19
Local	130	40.25	6.03	174	50.58	8.25	158	49.22	7.65	119	43.27	5.89	114	41.61	5.77
Developmental . .	36	11.15	1.67	39	11.34	1.85	37	11.53	1.79	39	14.18	1.93	33	12.04	1.67
Violent	14	4.33	0.65	10	2.91	0.47	15	4.67	0.73	6	2.18	0.30	10	3.65	0.51
Total	309	95.07	14.34	330	95.93	15.64	310	96.57	15.01	251	91.27	12.42	256	93.43	12.96
Still-born	14	4.33	0.65	14	4.07	0.63	11	3.43	0.53	24	8.73	1.19	18	6.57	0.91
Aggregate	323	-	14.99	344	-	16.30	321	-	15.54	275	-	13.61	274	-	13.87

TABLE VI.
Total of Deaths, Still-births and Deaths from Zymotic Diseases, for Five Years with Percentages.

YEARS.	Total Deaths exclusive of Still-births.	Still-births.	Total Mortality.	Rate per 1000 Inhabitants exclusive of Still-births.	Rate of Still-births per 1000 Inhabitants.	Total Rate per 1000 Inhabitants.	Percentage of Still-births to Total Mortality.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.	Cerebro-Spinal Meningitis.	Whooping Cough.	Measles.	Diarrheal Diseases.	Small-pox.	Other Zymotics.	Total Zymotics.	Percentage of Zymotic Deaths to Total Mortality.	Population.
1889 .	309	14	323	14.34	0.65	14.99	4.33	40	1	13	0	1	0	10	0	5	70	21.67	21,553
1888 .	330	14	344	15.64	0.66	16.30	4.07	10	2	11	1	2	1	16	0	8	51	14.82	21,105
1887 .	310	11	321	15.01	0.53	15.54	3.43	6	1	7	0	0	3	22	0	10	49	15.26	20,656
1886 .	251	24	275	12.42	1.19	13.61	8.73	4	2	6	0	2	0	16	0	4	34	12.36	20,208
1885 .	256	18	274	12.96	0.91	13.87	6.57	3	3	7	0	0	5	12	0	6	36	13.14	19,759

TABLE VII.
Deaths from Zymotic Diseases, with Yearly Percentages to Total Mortality for Four Years.

	Total Deaths from each cause.	Deaths per 1000 Inhabitants.	Total Deaths per Sex.		Total Deaths per Sex under Five Years.		Total Deaths under Five Years.	Percentage of each cause to total Mortality.	Percentage of each cause to Total Mortality.				
									1889.	1888.	1887.	1886.	1885.
			M.	F.	M.	F.							
Alcoholism	1	.046	1	-	-	-	-	.31	-	.31	.73	.36	
Cholera Infantum	9	.418	4	5	4	5	9	2.786	2.33	4.36	4.36	3.28	
Croup	1	.511	3	8	3	6	9	2.786	.58	.62	.36	.36	
Croup, Diphtheritic	8		1	-	-	-	-	.31	1.16	.31	1.46	.36	
Croup, Membranous	1	.046	1	-	-	-	-	8.98	2.33	1.25	1.09	.73	
Diarrhoea	29	1.346	14	15	10	6	16	4.954	1.16	2.49	-	.73	
Diphtheria	-	-	-	-	-	-	-	-	1.16	.93	-	-	
Dysentery	-	-	-	-	-	-	-	-	.29	.31	-	.36	
Erysipelas	-	-	-	-	-	-	-	-	.29	.31	.73	1.10	
Fever, Malarial	1	.046	-	1	-	1	1	.310	.58	.31	2.18	2.56	
Fever, Scarlet	13	.604	7	6	1	-	1	.310	3.20	2.18	-	1.83	
Fever, Typhoid	-	-	-	-	-	-	-	-	.29	.94	-	-	
Measles	-	-	-	-	-	-	-	-	.29	-	-	.36	
Meningitis, Cerebro-Spinal	1	.046	1	-	-	1	1	.310	.31	.31	-	.36	
Purpura Hem.	2	.093	2	-	-	-	-	.62	.29	.31	.36	-	
Pyæmia	1	.046	-	1	-	1	1	.310	.58	-	.73	-	
Septicæmia	1	.046	-	1	-	1	1	.310	.58	.31	.36	-	
Whooping Cough	1	-	-	-	-	-	-	-	-	.94	-	1.11	
Other Causes	-	-	-	-	-	-	-	-	-	-	-	-	
Total	70	3.248	33	37	18	21	39	12.076	21.67	14.82	15.26	12.36	
												13.14	

TABLE VIII.

Deaths from Fifteen of the Principal Causes.

	Total Deaths from each cause.	Percentage of each cause to Total Mortality.	Deaths per 1000 Inhabitants.	Total Deaths by Sex.		Total Deaths by Sex under 5 Years.		Total Deaths under Five Years.	Percentage of each cause under Five Years to Total Mortality.
				M.	F.	M.	F.		
Consumption	32	9.91	1.48	16	16	-	-	-	-
Heart Diseases . . .	30	9.29	1.39	19	11	-	-	-	-
Diphtheria	29	8.98	1.35	14	15	10	6	16	4.954
Pneumonia	15	4.64	.70	7	8	3	2	5	1.548
Nephritis (Bright's Dis.)	14	4.33	.65	8	6	-	-	-	-
Old Age	14	4.33	.65	5	9	-	-	-	-
Typhoid Fever . . .	13	4.02	.60	7	6	1	-	1	.310
Croup	11	3.40	.51	3	8	3	6	9	2.786
Cancers	10	3.10	.46	4	6	-	-	-	-
Cholera Infantum . .	9	2.79	.42	4	5	4	5	9	2.786
Apoplexy	8	2.48	.37	4	4	-	-	-	-
Premature Birth . .	8	2.48	.37	3	5	3	5	8	2.477
Brain Diseases . . .	7	2.17	.32	4	3	2	1	3	.929
Debility, General . .	6	1.86	.28	1	5	-	1	1	.310
Paralysis	6	1.86	.28	2	4	-	-	-	-

COMPARATIVE VIEW OF CASES OF DIPHTHERIA, SCARLET FEVER, AND TYPHOID FEVER IN NEWTON,
AS REPORTED MONTHLY DURING THE LAST FIVE YEARS, TOGETHER WITH RAINFALL.

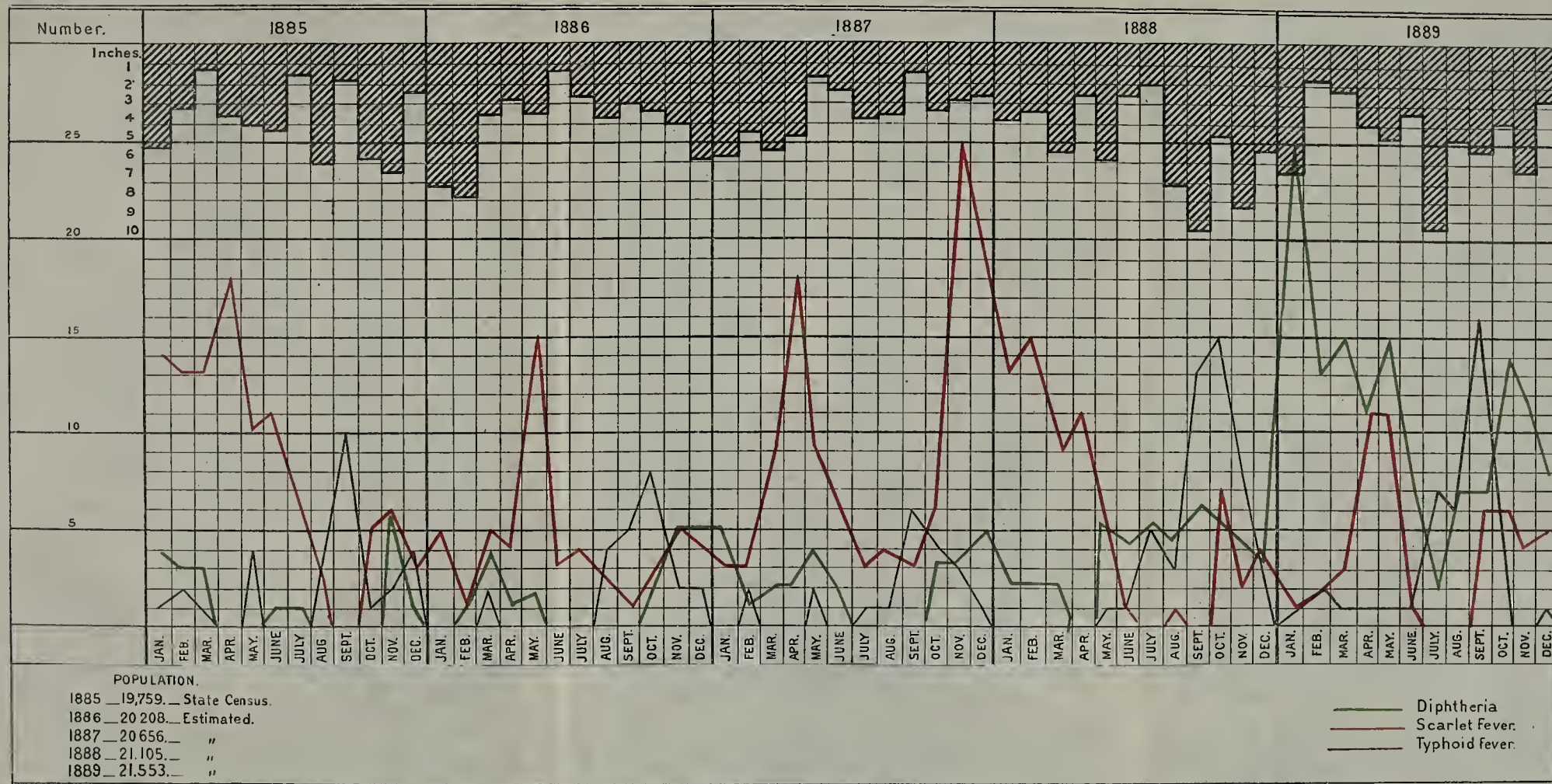


TABLE IX.

Total Number of Deaths under Five Years, and Five Years and over, for Five Years, with Percentages to the Total Mortality.

YEARS.	Total Deaths exclusive of Still-births.	Five Years and over.	Under Five Years.	PERCENTAGES.	
				Five Years and over.	Under Five Years.
1889 . .	309	223	86	72.17	27.83
1888 . .	330	248	82	75.15	24.85
1887 . .	310	218	92	70.32	29.68
1886 . .	251	179	72	71.32	28.68
1885 . .	256	199	57	77.74	22.26

TABLE X.

Total Deaths each Quarter of the last Five Years with the Aggregate and Average Number.

	1889.		1888.		1887.		1886.		1885			
	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Aggregate.	Average.
First Quarter . .	86	26.62	94	27.32	70	21.81	63	22.91	75	27.37	388	25.24
Second " . .	74	22.91	76	22.09	85	26.48	64	23.28	73	26.64	372	24.20
Third " . .	81	25.08	95	27.62	86	26.79	85	30.90	73	26.64	420	27.33
Fourth " . .	82	25.39	79	22.97	80	24.92	63	22.91	53	19.35	357	23.23
Total each year.	323		344		321		275		274		1537	

TABLE XI.—Statement of Cases of Diphtheria, Scarlet Fever, Typhoid Fever and Cholera Infantum by Months in each Ward.

MONTHS.	DIPHTHERIA.							SCARLET FEVER.								
	Ward One.	Ward Two.	Ward Three.	Ward Four.	Ward Five.	Ward Six.	Ward Seven.	Total.	Ward One.	Ward Two.	Ward Three.	Ward Four.	Ward Five.	Ward Six.	Ward Seven.	Total.
January . . .	2	1	5	5	3	8	1	25	-	-	-	1	-	-	-	1
February . .	1	-	3	3	1	2	3	13	1	-	-	-	1	-	-	2
March . . .	1	-	8	4	1	1	-	15	-	3	-	-	-	-	-	3
April	6	1	-	-	3	-	1	11	1	-	-	7	-	-	3	11
May	8	1	-	-	1	4	1	15	4	-	-	6	-	-	1	11
June	3	1	-	1	1	1	-	7	-	-	-	-	-	-	1	1
July	2	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
August . . .	4	-	1	-	1	-	1	7	-	-	-	-	-	-	-	-
September . .	4	2	1	-	-	-	-	7	1	4	1	-	-	-	-	6
October . . .	4	9	1	-	-	-	-	14	3	2	-	-	1	-	-	6
November . .	9	1	2	-	-	-	-	12	2	1	-	-	-	1	-	4
December . .	4	1	1	1	1	-	-	8	-	7	-	-	-	-	-	7
Total . . .	48	17	22	14	12	16	7	136	12	17	1	14	2	1	5	52

MONTHS.	TYPHOID FEVER.							CHOLERA INFANTUM.								
	Ward One.	Ward Two.	Ward Three.	Ward Four.	Ward Five.	Ward Six.	Ward Seven.	Total.	Ward One.	Ward Two.	Ward Three.	Ward Four.	Ward Five.	Ward Six.	Ward Seven.	Total.
January . . .	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
February . .	1	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-
March . . .	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
April	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-
May	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
June	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
July	-	1	1	1	1	3	-	7	1	-	2	-	1	-	-	4
August . . .	2	-	-	3	-	1	-	6	1	-	-	1	-	1	-	3
September . .	2	1	1	3	2	7	-	16	1	2	1	1	-	-	-	5
October . . .	-	3	-	-	-	1	1	5	-	2	-	-	-	1	-	3
November . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December . .	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
Total . . .	7	5	2	10	5	12	1	42	3	4	3	2	1	2	-	15

TABLE XII.

Cases of Diphtheria, Scarlet Fever and Typhoid Fever reported during the last Five Years, by Months.

MONTHS.	DIPHTHERIA.					SCARLET FEVER.					TYPHOID FEVER.				
	1889.	1888.	1887.	1886.	1885.	1889.	1888.	1887.	1886.	1885.	1889.	1888.	1887.	1886.	1885.
January . .	25	2	5	-	4	1	13	3	5	14	1	-	-	-	1
February . .	13	2	1	1	3	2	15	3	2	13	2	-	2	-	2
March . .	15	2	2	4	3	3	9	9	5	13	1	-	-	2	1
April . . .	11	-	2	1	-	11	11	18	4	18	1	-	-	-	-
May . . .	15	5	4	2	-	11	5	9	15	10	1	1	2	-	4
June . . .	7	4	2	-	1	1	1	6	3	11	1	1	-	-	-
July . . .	2	5	-	-	1	-	-	3	4	7	7	5	1	-	-
August . .	7	4	-	-	-	-	1	4	2	2	6	3	1	4	3
September .	7	6	-	-	-	6	-	3	1	-	16	13	6	5	10
October . .	14	5	3	1	-	6	7	6	3	5	5	15	4	8	1
November .	12	4	3	5	6	4	2	25	5	6	-	8	3	2	2
December .	8	3	5	5	1	7	5	19	4	3	1	3	1	2	4
Total . .	136	42	27	19	19	52	69	108	53	102	42	49	20	23	28
Aggregate .	243					384					162				
Average . .	49					77					32				

CITY OF NEWTON.

ANNUAL REPORT

OF THE

CITY ENGINEER,

FOR THE YEAR 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS.
1890.

OFFICERS OF CONTROLLING BOARDS AND COMMITTEES.

Chief Executive Officer (ex-officio).

HIS HONOR THE MAYOR, HEMAN M. BURR.

Joint Standing Committee on Highways.

ALDERMAN WILLIAM F. HARBACH, *Chairman*.

Water Board.

EDWARD W. CATE, *President*.

Joint Standing Committee on Public Property.

ALDERMAN N. HENRY CHADWICK, *Chairman*.

Joint Special Committee on Sewerage.

ALDERMAN N. HENRY CHADWICK, *Chairman*.

Board of Health.

HIS HONOR THE MAYOR, HEMAN M. BURR, *President (ex-officio)*.

Joint Standing Committee on Public Parks, Squares, and Burial Grounds.

ALDERMAN GEORGE PETTEE, *Chairman*.

CITY ENGINEER'S DEPARTMENT.

City Engineer.

ALBERT F. NOYES.

Principal Assistant Engineer.

FRED. H. BARNES.

Assistant Engineers.

I. W. HASTINGS.

WILLIAM P. MORSE.

DAVID HINCKLEY.

Transitman and Leveller.

HENRY JEFFERSON.

Rodmen.

ALBERT H. ELDER.

G. ALBERT HARRIS.

Draughtsman.

ALFRED O. DOANE.

Stenographer.

S. J. LEWIS.

REPORT.

CITY ENGINEER'S OFFICE, CITY HALL,
WEST NEWTON, MASS., Dec. 31, 1889.

TO THE HONORABLE CITY COUNCIL.

Gentlemen,—In compliance with Section 5 of Ordinance No. 9, I herewith respectfully submit the annual report of the City Engineer's Department for the year 1890.

Amount appropriated for the year	\$8,000 00
Amount paid from appropriation for additional water supply	395 59
Amount paid from appropriation for sewerage surveys and plans	117 84
	\$8,513 43
Amount expended	8,499 78
Leaving an unexpended balance of	\$13 65

Classification of Expenditures.

For salaries of city engineer, assistants, draughtsman, rodman and stenographer	\$7,389 02
For car fares and other incidentals	299 28
For horse, harness, wagon and sleigh	244 80
For care and keeping of horses, wagons, etc.	398 16
For drawing-paper and other supplies	94 37
For instruments and repairs	74 15
Total amount	\$8,499 78

The items of salaries of city engineer and assistants may be divided as follows:—

For defining street lines: making surveys and maps; the examination of titles and draughting of reports, orders and releases for street widening, acceptance, and extension; office records; defining and establishing proposed grades of streets; preparing specifications for the construction of new streets; surveys, plans, specifications, lines and grades for two new bridges over Charles River; surveys, plans, profiles and estimates for proposed work on highways; and for all work relating to highways	\$2,782 63
For clerical work in keeping highway accounts	841 35
For establishing lines and grades for extension of water pipe; locating and measuring service pipes; for surveys, plans and study of the question of high service and additional water supply and for all work relating to water works	2,051 55
For defining lines and grades for the construction of drains and culverts, making preliminary surveys, plans, profiles, diagrams, estimates, calculations and all work relating to drains	395 23
For defining the lines, surveys, and plans of city property and for all work under the direction of the joint standing committee on public property	364 97
<i>Amount carried forward</i>	\$6,435 73

<i>Amount brought forward</i>	\$6,435 73
For copying all Newton plans at registry of deeds and county commissioners' office and indexing the same; and for all indexing of other plans, deeds, field work, etc.	311 88
For surveys and plans for numbering the houses on the various streets of the city, and for all work relating to the same	221 47
For making plans showing the contours of the city and investigating the question of sewerage under the direction of the joint special committee on sewerage	170 16
For plans, estimates, reports, correspondence, and all work relating to the Board of Health	93 60
For making surveys and levels for plans, profiles and estimates for the use of the city solicitor in suits for or against the city, and at legislative hearings; for attending court and hearings and for all work relating to suits and hearings	67 40
For making surveys, plans and calculations for the use of the assessors' department	54 27
For defining the lines, grading, making surveys and plans of the various present and proposed parks; and for all work under the direction of the joint standing committee on public parks, squares and burial grounds	34 06
Total amount	\$7389 02

Surveys have been made of the whole or part of forty-two streets; covering a length of seven and seventy-eight

hundredths miles. Two hundred and eighteen plans, profiles and tracings have been made. Levels have been taken over the whole or a part of sixty-five streets, or brooks, a total length of nineteen and five-tenths miles. Lines have been established on sixty-five streets, and grades on one hundred and twenty-one streets. The total length of grades given was eight and nine-tenths miles. The total number of plans, profiles, tracings, etc., now in the office is 3253.

The minimum number of assistants employed during the past year is six, average number ten and the maximum number at any time, sixteen.

Upon the following named streets, plans and profiles have been made; lines and grades defined; titles and boundaries of the abutting estates examined; reports, orders and releases drawn; and said streets have been laid out and accepted by the city council.

Streets Accepted in 1889.

STREET.	From	To	Width in Feet.	Length in Feet.
*Boylston . . .	Winchester St. .	Parker St. . . .	60	1,845
*Boylston . . .	Elliot St. . . .	Charles River . .	55	4,200
Ballard	Centre St. . . .	Ward St.	40	875
Berkeley	Chestnut St. . . .	Land of Robinson,	40	1,100
Chester	Lincoln St. . . .	Forest St.	40	550
Fair Oaks Ave.,	Linwood Ave. . .	California St. . .	40	735
Griffin Ave. . .	Walnut St. . . .	Lake Ave.	40	756
Glenwood Ave.,	Ridge Ave. . . .	Parker St.	40	683
Hancock Ave. .	Beacon St. . . .	Beacon St.	40	1,324
Kimball Terrace,	Otis St.	Southerly	40	370
Middlesex Road,	Hammond St. . .	Brookline line . .	40	1,023
Prince	Berkeley St. . . .	Chestnut St. . . .	40	1,112
Standish	Columbus St. . .	Chester St.	40	300
Sewall	Prince St.	Westerly	40	430
Union	Station St. . . .	Institution Ave. .	40	475
Total		2.98 miles	or	15,778

* Relocated.

The routine work of the office, the system of accounts, the copying and indexing of all Newton plans of the registry of deeds, county commissioners' and clerk of courts' offices, also all private land plans attainable has been continued as outlined in previous reports.

Late in the fall preliminary work upon the question of sewerage for the city was commenced, but the large amount of work required for the seizure of the land in Newton and Needham for an additional water supply, necessitated the use of the entire office force of the department, and it was necessary to set the sewerage question aside for the time being, but this work will be taken up early in the spring and pushed with the utmost rapidity.

Such surveys and plans as the city solicitor has needed for the legislative hearings, accident cases, suits, etc., have been furnished, and whenever necessary these hearings and suits have been attended.

The city engineer has also attended to such consultation work as has been requested of him by the Board of Health, and has furnished the Board with estimates, reports, etc.

The department has been called upon by the assessors department to verify areas of land assessed in several cases, and it is apparent that a survey of the city for the use of the assessors would prove of great assistance to that department, and also would probably show considerable variation from the areas as they are now rated by the assessors.

Plans for numbering the streets have been prepared as rapidly as the current work of the department permitted.

Numbers have been established on the following streets during the year :

Adams.	Elliot.
Adams court.	Elm place.
Ash, (Auburn to Seaverns.)	Fairview.
Aspen avenue.	Farwell.
Ballard.	Fountain.
Beech.	Fern.
Bourne.	Floral.
Bowdoin.	Forest avenue.
Broadway.	Forest.
Cabot.	Forest place.
Central avenue.	Franklin avenue.
Central place.	Freeman.
Chandler.	Grafton.
Chapel.	Greenough.
Chase.	Grove (Auburn to B. & A. R. R.)
Chesley place.	Hall.
Chestnut.	Hancock avenue.
Chester.	Hancock.
Circuit avenue.	Hawthorne avenue.
Clark.	High.
Clifton.	Highland (Washington to Chestnut.)
Clinton.	Highland avenue (Wal- nut to beyond Murray.
Columbus.	Hillside avenue.
Columbia avenue.	Jackson, (Boylston to beyond Cypress.)
Cook.	Kimball terrace.
Concord.	Lake avenue.
Cottage.	Lander.
Cottage court.	Laurel
Crafts.	Lincoln court,
Cypress.	
Crystal.	
Dalby.	
Edinboro.	

Lyman.
Maple.
Margin.
Meredith avenue.
Mill.
Murray.
Norwood avenue.
Oakland avenue.
Oak.
Otis.
Otis place.
Park place.
Paul.
Pine Grove avenue.
Prince.
Putnam.
Regent.
Spring.
Spruce.

Staniford.
Station.
St. Mary's.
Summer.
Temple.
Trowbridge.
Turner
Walker.
Walnut place.
Walnut(Mill to Homer.)
Waltham.
Walnut terrace.
Ward.
Webster park.
Winter.
Winthrop.
Willow.
Woodland avenue.
Vista avenue.

HIGHWAY DEPARTMENT.

Highway Surveyors and Joint Standing Committee on Highways.

ALDERMAN WILLIAM F. HARBACH, *Chairman*.

ALDERMAN GEORGE PETTEE.

ALDERMAN N. HENRY CHADWICK.

COUNCILMAN ARTHUR F. LUKE.

COUNCILMAN EVERETT E. MOODY.

COUNCILMAN ALBERT W. RICE.

COUNCILMAN EPHRAIM S. HAMBLIN.

EXECUTIVE OFFICERS.

Superintendent of Streets.

WILLIAM E. FULLER.

Assistant Superintendents of Streets.

GEORGE E. STUART, Wards 1, 2 and 7.

JOHN J. WARE, Wards 3 and 4.

*JOHN A. PECK, Wards 5 and 6 to Mch. 5th.

CHAS. A. PECK, Wards 5 and 6 from Mch. 5th.

City Engineer.

ALBERT F. NOYES.

* Deceased.

HIGHWAYS.

During the year the joint standing committee on Highways has had under its management the repairs, building and rebuilding of streets, drains, culverts, bridges, sidewalks, etc., the gravel lands and the watering of the streets.

Several changes were made in the membership of the Highway Surveyors and the joint standing committee on Highways. Alderman Harbach became chairman of the committee. Councilman Luke being a new member in the place of Councilman Read, retired.

By the death of John A. Peck, assistant superintendent of streets of Wards 5 and 6, the department lost the services of an efficient and faithful officer. He was succeeded by his son Mr. Charles A. Peck. So far as possible, thorough work has been performed in repairing the streets, and several of the streets have been thoroughly rebuilt. All the machinery of the department has been kept in excellent condition by the engineer, William Kent. The steam road roller has picked up 19,438 square yards of Telford, macadamized or gravel road; and has laid down 98,807 square yards of the same. It has been employed in rolling the streets on the Valentine and Collins estates, and it has also been employed by the Electric Railroad Co. to pick up Washington street from Lowell street to Nonantum square.

The principal streets which have been rebuilt and regraded during the year are as follows: Beacon street, Centre street,

Highland avenue from Murray street to top of the hill, North street from Crafts to Farwell street, Valentine street, Ward street, Washington street from Elm street to Prospect street.

The grade of Winter street was raised several feet, thereby reducing the grade of the approach to High street.

Washington street from Nonantum square to West Newton, is greatly in need of repairs, but the committee has considered it inexpedient to do any considerable amount of work upon it until the completion of the Electric railroad.

As early in the year as the height of the water in Charles river would permit work was commenced on Bemis bridge, (a description of this bridge was given in last year's report), and after numerous delays for stone and other material, the bridge was completed in October, at an expense of \$6,979.77.

The work on Washington street bridge was carried on throughout the winter. The iron work was in place and the bridge open for travel early in the summer. The grade of a portion of Washington street from Concord street to the bridge was raised, retaining walls constructed, and a sidewalk built. The bridge was completed at a cost of \$3,897.06.

The uncovered portion of Hyde brook which receives the drainage of a large portion of Wards 1 and 7, had become a source of annoyance to the owners of abutting property between the mouth of the brook and the covered portion. In answer to several petitions for the covering of the brook, the upper portion was lowered to the grade which will be necessary if the recommendation of the late "Special Committee for the abolition of Railroad Crossings at Grade," is carried out. A brick conduit sixty inches in diameter was constructed, which will now give ample capacity for the flow of the water, and it is not expected that any complaints can arise in the future.

The drainage from a large portion of Waverley avenue near Sargent street flowing onto private estates had become a

Curbing.

Amount appropriated by order of the city council for the year 1889	\$2,000 00
--	------------

Amount charged to appropriation for curbing, as per auditor's records	\$1,979 91
---	------------

Total amount expended as per superintendent's and assistant superintendent's records of work	\$1,979 91
---	------------

The following table shows the number of linear feet,
kind and cost of curbing which has been laid :—

CURBING.

STREET.	Ward.	Linear feet of Straight Curbing.	Linear feet of Curved Curbing.	Total Length of Curbing.	Cost.
Bellevue	1	-	-	-	†\$37 94
Beacon	4	63.50	54.50	118 00	106 84
Church	7	181.87	-	181.87	168 65
Centre	7	141.00	-	141.00	138 41
Curbing to private) parties {	-	15 50	-	15.50	19 91
Chestnut	5	-	-	-	†18 75
Eldridge	7	66.33	-	66.33	*79 02
Elmwood	7	-	-	-	†6 86
Everett	6	99.00	-	99.00	95 23
Elliot	5	28.00	-	28.00	*31 89
Forest	5	-	29.75	29.75	36 51
Hunter	3	-	-	-	†2 38
High	5	39.00	-	39.00	52 64
Lincoln	5	30 00	-	30.00	*44 17
Lowell	2	-	-	-	†104 29
Lexington	4	267.75	83.00	350.75	279 40
Maple	4	-	29.00	29.00	33 20
Stock	-	17.50	65 50	83.00	25 46
Temple	3	118.00	-	118.00	116 31
Watertown & Walnut,	2	259.33	26.75	286.08	246 00
Winthrop	3	-	-	-	†21 01
Waltham	3	-	-	-	†7 50
Washington	3	31.75	70.75	102.50	111 49
Watertown	3	128.08	-	128.08	102 85
Walnut	6	27.50	-	27.50	22 27
Miscellaneous	-	-	-	-	70 93
Total	-	1514.08	359.25	1873.33	\$1979 91

* Partly reset.

† Resetting.

Drains and Culverts.

Amount appropriated by order of the city council for the year 1889	\$11,500 00
Amount charged to appropriation for drains and culverts, as per auditor's records	\$12,706 26
Amount charged by auditor to other appropriations	111 10
Total amount expended as per superintendent's and assistant superintendents' records of work	12,817 36

The following tables show the cost, etc., of the catch basins, culverts and drains constructed or reconstructed during the year and the streets in which the same were built:—

Catch Basins Constructed and Reconstructed in 1889.

STREET.	LOCATION.	COST.	REMARKS.
Adams	Cor. Washington St. . .	\$16 20	-
Allston	- - -	16 37	Repaired.
Henshaw	- - -	41 38	Rebuilt and repairs on drain.
Prospect	- - -	1 50	Repaired.
Sargent	- - -	58 86	Repaired.
Winter	Near Chestnut St. . . .	31 65	-
		\$166 26	

DRAINS CONSTRUCTED IN 1889.

STREET.	Size in Inches.	Length in Feet.	Man- holes.	Catch- Basins.	Feet of Inlets.	Size of Inlets.	Cost.	LOCATION.
Boylston . . . {	15	51.00 }	-	-	-	-	\$79 56	At Washington St. Near Washington St. Near Nonantum Place, Hartford to Chester Sts. Norfolk Road, east. Near Laundry Brook. Concord St. to Charles River. Cheese Cake Brook to Cate's stable. Monument St. to beyond Kenrick St. Off Webster Park through Colligan's land.
Concord . . . {	12	51.00 }	-	-	-	-	43 74	
Fuller {	8	20.00 }	-	1	36.00	8	91 70	
Hyde Brook . . {	12	48.25 }	-	-	-	-	4 386 74	
Lincoln {	60x62	192.00 }	4	4	85.50	8	566 00	
Middlesex Road {	12	316.20 }	-	-	-	-	416 80	
Newtonville Ave. {	12	596.00 }	-	3	48 00	10	54 54	
Washington . . {	10	32.00 }	-	1	96.00	8	466 07	
Watertown . . {	6	14.00 }	1	2	-	-	205 85	
Waverly Ave. . {	12	296.00 }	-	1	-	-	1,838 71	
Webster Park . {	10	275.00 }	1	4	-	-	94 47	
	12	817.00 }	-	1	-	-	-	
	18	12.00 }	-	-	-	-	-	
	6	151.00 }	-	-	-	-	-	
Totals. . . .	-	4277.45	6	17	265 50	-	\$8,244 18	

The following miscellaneous items of expenditure have also been charged to drains and culverts :—

Auburn street, repairing drain	\$148 22
Beacon street, cleaning catch basins	3 50
Board of Health, cleaning drain	125 79
Cabot street, repairs on drain	13 08
Central avenue, repairs on drain	106 39
Centre street, repairs on drain	44 00
Cheese Cake brook, cleaning	169 62
Cherry street, repairs on drain	25 80
Circuit avenue, culvert extended	7 50
Cleaning catch basins	2,341 01
Copley street, repairs on drain	1 78
Crafts pit	10 00
Grove Hill Park, repairs on drain	5 25
Highland avenue, repairs on drain	73 22
Hyde's brook, cleaning drain	150 93
Laundry brook, cleaning	62 89
Lowell street, repairs on drain	7 11
Margin street, cleaning drain	1 75
Mt. Vernon street, repairs on culvert	14 38
Murray street, cleaning drain	23 71
Newtonville avenue, cleaning drain	36 08
Perkins street, repairing drain	53 06
Repairing culvert	23 69
Stock on hand paid for from appropriation for 1888	
Brick	25 00
Walnut street, repairing drain	13 08
Walnut street, repairs on bridge	16 13
Waltham street	3 25

Amount carried forward

\$3,456 22

<i>Amount brought forward</i>	\$3,456 22
Waltham street, use of land	100 00
Washington street, repairing drain	135 73
Washington street, building foot bridge	32 77
Webster street, cleaning drain	1 75
Sundries	680 45
Total	\$4,406 92

Summary of Expenses Charged to the Appropriation for Drains and Culverts.

Catch basins constructed and reconstructed	\$166 26
Drains constructed	8,244 18
Miscellaneous expenses	3,406 92
	\$12,817 36

Gravel Lands.

Amount appropriated by order of the city council for the year 1889	\$1,000 00
Amount expended as per superin- tendent's and assistant super- intendents' record of work	555 25
Amount charged by auditor in excess	234 30
Amount expended as per auditor's records	789 55

The above amount has been expended in the following manner:—

Beacon street, for use of stone	\$100 00
Gravel for miscellaneous purposes	121 30
Magnolia avenue, stone	45 00
Paving stone	61 00
Pine street gravel	200 00
Sanding walks, sand for	27 95
	\$555 25

Highways, General Repairs.

Amount appropriated by order of the city council for the year 1889	\$60,000 00	
Amount of additional appropriation	10,000 00	
Amount transferred from the appropriation for the removal of ashes	500 00	
Amount received from various sources	1,611 00	
Total appropriation		\$72,111 00
Amount expended as per superintendent's and assistant superintendents' record of work .	\$68,595 72	
Amount charged by auditor in excess	3,484 33	
Amount expended as per auditor's records		\$72,080 05

The following table will show in detail the amount expended on each street for maintenance as made up from the superintendent's and assistant superintendents' records of work:—

Adams	\$181 64
Alpine	22 02
Aspen avenue	61 50
Auburndale avenue	77 75
Auburn	68 22
Austin	168 65
Beacon	3,173 37
Beacon and Hammond	9 15
Beaumont avenue	4 50
Bellevue	108 80
Bennington	343 99
Bowen	10 00
Boyd	5 81
Boylston	331 38
Bridge	12 16
Brighton	20 14
Cabot	137 18
California	5 88
Carlton	64 00
Centre	3,467 91
Central	87 27
Central avenue	336 55
Central place	11 20
Chapel	28 99
Cherry	35 88
Chestnut	454 41
Church	235 41
<i>Amount carried forward</i>	\$9,463 76

<i>Amount brought forward</i>	\$9,463 76
Circuit avenue	1 00
Concord	21 37
Copley	28 35
Court	76 98
Crafts	643 75
Cross	10 33
Cypress	286 08
Edinboro	31 93
Eldridge	78 55
Elliot	7 00
Elm	41 63
Elmwood	14 95
Fairmont avenue	28 14
Faxon	3 48
Fern	69 58
Floral avenue	3 50
Florence	11 00
Fountain	8 26
Franklin	406 45
Fuller	712 39
Gardner	24 33
Grant avenue	195 45
Grove	184 24
Grove Hill park	48 39
Hall	122 23
Hammond	147 67
Hawthorne avenue	76 25
Henshaw	34 98
High	158 15
Highland	205 51
<i>Amount carried forward</i>	\$13,049 68

<i>Amount brought forward</i>	\$13,049 68
Highland avenue	1,153 30
Hillside avenue	24 37
Hollis	24 00
Homer	615 34
Hull	17 65
Hyde avenue	338 69
Jackson	4 76
Jefferson	142 75
Jewett	1 62
Kenrick	5 75
Kenrick park	150 18
Kingsbury	16 88
Lake avenue	15 00
Lander	17 99
Lexington	669 35
Linden	5 75
Lombard	136 30
Lowell	102 40
Maple	26 75
Melrose	29 75
Middle	297 23
Middlesex road	2 20
Mill	6 83
Morse	4 65
Mt. Vernon	116 71
Murray	44 50
Needham bridge	1 15
Nevada	66 39
Newton square	18 81
Newtonville avenue	111 71
<i>Amount carried forward</i>	\$17,218 44

<i>Amount brought forward</i>	\$17,218 44
Newtonville square	128 78
North	2,593 08
Oak Hill District	1,299 43
Otis	29 70
Park	204 09
Parker	178 38
Parsons	203 02
Pearl	32 39
Pelham	23 29
Pembroke	4 81
Perkins	4 75
Pleasant	122 15
Prescott	8 33
Prince	43 18
Prospect avenue	4 50
Putnam	24 25
Regent	4 40
River	132 22
Rockland	2 11
Sargent	48 46
School	30 15
Seaverns	583 98
Shaw	15 05
South	176 49
Station	13 00
Summit	116 34
Thornton	5 41
Tremont	42 06
Valentine	1,454 50
Vernon	86 69
<i>Amount carried forward</i>	\$24,803 43

<i>Amount brought forward</i>	\$24,803 43
Vista avenue	84 75
Waban	16 41
Waban park	9 06
Wolcott	19 00
Wolcott park	82 00
Wales	7 00
Walnut	249 13
Ward	1,418 14
Washington	1,907 63
Washington, Elm to Prospect streets . .	1,165 58
Washington park	9 75
Watertown	418 09
Waverley avenue	606 62
Webster	2 50
Winchester	15 38
Winter	708 95
Winthrop	38 63
Wiswall	6 75
Woodland avenue	13 75
Cleaning crossings	676 68
Cleaning gutters	6,700 56
Cutting grass	315 06
Engines	18 38
Gravel pits	14,829 45
Patching	1,531 38
Paving	57 56
Picking stones	1,083 41
Purchase of horses	1,125 00
Removing snow	422 57
Repairing crushers	914 10
<i>Amount carried forward</i>	\$60,382 72

<i>Amount brought forward</i>	\$60,382 70
Repairing washouts	88 96
Stable account	252 90
Steam drill	152 26
Steam roller	323 14
Storing stone	2,918 75
Street signs	38 50
Superintendent's salary	1,699 96
Tools	1,099 80
Trimming trees	426 57
Ward 2 highway yard	13 23
Miscellaneous	1,198 95
Total	\$68,595 72

Highways, Widening, Reconstruction and Improvements.

Amount appropriated by order of the city council	\$15,500 00
Amount expended as per auditor's records	\$15,323 90
Amount charged by auditor from other appropriations	590 50
Amount expended as per superin- tendent's and assistant super- intendents' records of work	\$15,914 40

The following table shows in detail the expenditure under this appropriation :

STREET.	Ward.	Location and Description of Work.	Cost.
Brighton . . .	7	Building wall, Farlow estate.	\$369 97
Boylston . . .	5	Regrading and reconstructing, High to Walnut street.	3,179 27
Church	1	Regrading and reconstructing, near Richardson street.	776 52
California . . .	2	Regrading and reconstructing, Dalby to Allison street.	1,813 79
Durant	7	Reconstructing.	611 10
Richardson . . .	1	Regrading, reconstructing and draining, Church to Centre St.	2,165 35
Washington . . .	4	Widening and building wall, near Beacon street.	2,836 69
Watertown . . .	2	Regrading, reconstructing and draining Adams street, west.	3,529 28
Waverley Ave. . .	6	Widening at corner of Ward St.	632 43
			\$15,914 40

Land Damages.

Amount appropriated by order of
the city council for the year
1889

\$500 00

Amount transferred to the appro-
priation for sidewalks and
street crossings

450 00

Total appropriation

\$50 00

Amount expended as per auditor's
records

50 00

The above amount has been expended in settlement of the
claim of C. A. Paddock for damages caused by widening River
street,

Removal of Ashes.

The collection of ashes is made by the highway department under the direction of the highway surveyors.

Amount appropriated by order of city council for the year 1889	\$5,000 00
Amount transferred to the appropriation for highways, general repairs	500 00
Amount transferred to appropriation for drains and culverts	500 00
Total appropriation.	<u>\$4,000 00</u>
Amount charged to appropriation for removal of ashes, as per auditor's records	\$3,707 74
Amount charged by auditor in excess	<u>79 06</u>
Total amount expended as per superintendent's and assistant superintendents' records of work	<u>\$3,628 68</u>
Balance unexpended	\$371 32

The following statement will show the cost of the collection of ashes for each ward, and the day of the week on which the collection is made : —

Wards 1 and 7, Thursday	\$1,071 45
Ward 2, Friday	532 86
Ward 3, Saturday	509 84
Ward 4, Monday	438 36
Ward 5, Tuesday	381 51
Ward 6, Wednesday	<u>546 36</u>
Cost of labor, as per superintendent's and assistant superintendents' records of work	\$3,480 38

Maintenance of carts and harnesses	81 27
Blacksmithing	60 28
Miscellaneous	6 75
Total	<u>\$3,628 68</u>

Sidewalks and Street-Crossings.

Amount appropriated by order of City Council for the year 1889	\$14,000 00
Amount transferred from land damages	\$450 00
Amount charged to appropriation for sidewalks and street-cross- ings, as per auditor's records .	14,245 90
Amount charged by auditor to other appropriations	<u>204 10</u>
Total amount expended, as per superintendent's and assistant superintendents' records of work	\$14,214 95

The following table shows the number of square yards of concrete sidewalks and street crossings laid and repaired, the number of feet of flagstone crossings laid, and the cost of all sidewalks and crossings constructed ; —

STREET.	Ward.	SQUARE YARDS OF CONCRETE.				Cost.	REMARKS.
		Sidewalks, New.	Sidewalks, Repaired.	Crossings, New.	Crossings Repaired.		
Adams	2	-	-	-	-	\$52 59	Gravel.
Alpine	3	-	-	-	-	36 50	Gravel.
Ash	4	-	-	-	-	52 00	Gravel.
Auburn	4	71.27	-	36.32	-	103 51	Gravel.
Auburndale avenue	4	-	-	-	444.45	110 76	Partly gravel.
Beacon	6	37.19	-	-	-	435 05	Partly gravel.
Bellevue	1	750.87	-	-	-	580 53	Partly gravel.
Bennington	1	242.70	100.31	-	-	397 16	Gravel.
Boylston	5	-	-	-	-	376 17	Gravel.
Boylston and Walnut, Cabot	5	-	-	-	-	29 75	Gravel.
California	2	-	-	-	-	128 63	Gravel.
Carleton	2	-	-	-	-	13 75	Gravel.
Centre	7	423.88	686.97	128.42	114.94	18 36	Partly relaying brick walk.
Chapel	1	-	-	-	-	822 92	Gravel.
Chase	6	-	-	-	-	181 16	Gravel.
Cherry	3	120.69	-	-	-	88 63	Gravel.
Chester	5	99.99	-	-	-	87 13	Gravel.
Chestnut	5	67.82	-	-	-	32 50	Gravel.
Church	1	454.84	-	30.51	-	131 48	Partly gravel.
Circuit avenue	5	-	-	49.19	25.41	364 43	Gravel.
Copley	7	-	-	-	-	114 38	Gravel.
Court	2	-	-	-	-	9 25	Gravel.
Crafts	2	-	-	-	-	106 23	Gravel.
Crescent avenue	6	-	59.66	-	-	18 06	Gravel.
Cross	2	-	-	-	-	25 65	Gravel.
Cypress	6	-	-	-	-	6 37	Gravel.
Edinboro	2	167.14	-	-	-	153 63	Gravel.
Eldridge	6	264.43	52.72	15.36	-	54 32	Gravel.
Elliot	5	-	-	-	-	219 59	Gravel.
Elm	3	112.12	37.29	-	-	18 94	Gravel.
						83 70	

Erie avenue . . .	5	116.99	-	-	61.14	-	38 02
Everett . . .	6	324.60	-	-	-	-	243 63
Fairmont avenue . . .	1	205.73	-	-	-	-	142 86
Floral avenue . . .	5	68.88	-	-	-	-	22 38
Forest . . .	5	9.93	-	-	-	28.78	50 66
Franklin . . .	7	-	76.31	-	-	-	54 78
Gibbs . . .	6	137.71	-	-	-	-	84 21
Grasmere . . .	7	66.13	-	-	-	-	46 49
Grove . . .	4	193.10	21.24	-	-	-	216 15
Grove Hill park . . .	2	429.06	-	-	62 85	-	377 93
Hammond . . .	6	-	-	-	-	-	13 10
Hancock . . .	4	489.02	-	-	37.26	-	270 99
Harvard . . .	2	-	-	-	-	-	15 75
High . . .	5	118.11	80.00	-	-	26.70	144 83
Highland . . .	3	55.88	-	-	-	-	52 94
Highland avenue . . .	2	102.70	455 52	-	61.76	-	351 15
Hillside avenue . . .	3	300.10	-	-	22.92	-	171 92
Hollis . . .	7	133.55	-	-	-	-	74 34
Homer . . .	6	-	-	-	-	-	47 75
Hunter . . .	3	3.83	-	-	-	-	2 49
Hyde avenue . . .	5	-	-	-	-	-	26 81
Institution avenue . . .	6	-	-	-	-	-	20 00
Jefferson . . .	1	-	16.60	-	-	-	20 37
Jewett . . .	1	-	-	-	-	-	2 70
Kimball terrace . . .	2	40 23	-	-	-	-	13 07
Lake avenue . . .	5	177.85	-	-	-	-	78 54
Lander . . .	3	-	-	-	-	-	8 25
Laurel . . .	6	-	-	-	-	-	4 50
Lenox . . .	3	-	-	-	-	-	318 58
Lexington . . .	4	-	-	-	-	-	62 63
Lincoln . . .	5	-	-	-	-	-	49 51
Linden . . .	5	-	-	-	-	-	206 06
Lowell . . .	2	215.67	66.36	-	68 21	-	234 67
Margin . . .	3	-	100.09	-	-	-	55 78
Melrose . . .	4	-	-	-	-	-	157 12
Mt. Vernon . . .	3	-	-	-	-	-	70 72
<i>Carried forward . .</i>		6,002.01	1,753.07	573.94	640.28	\$8,604 81	

STREET.	Ward.	SQUARE YARDS OF CONCRETE.				Cost.	REMARKS.
		Sidewalks, New.	Sidewalks, Repaired.	Crossings, New.	Crossings, Repaired.		
<i>Brought forward.</i>							
Nevada	2	6,002.01	1,753.07	573.94	640.28	\$8,604.81	Gravel.
Newtonville avenue	1	558.55	-	-	-	3.25	
Nonantum	7	77.17	-	-	-	506.32	
North	2	-	-	-	-	27.30	
Otis	3	-	-	-	-	91.33	Gravel.
Park	7	48.95	105.74	6.67	-	23.61	Gravel.
Park place	2	-	-	-	-	74.77	
Parsons	2	-	-	-	-	23.50	Gravel.
Paul	6	89.77	-	-	-	11.76	Gravel.
Pearl	1	-	-	-	-	52.25	
Pelham	6	64.04	-	-	-	11.12	Gravel.
Pembroke	1	-	-	-	-	23.29	
Pleasant	6	-	50.88	-	-	10.75	Gravel.
Prescott	2	-	40.35	-	-	29.73	
Prince	3	-	-	-	-	7.06	
Prospect avenue	2	122.82	-	-	-	37.29	Plank walk.
Putnam	3	-	-	-	-	39.91	
River	3	-	-	-	-	41.11	Gravel.
Rowe	4	-	-	-	-	60.00	Gravel.
Seaverns	4	-	-	-	-	5.25	Gravel.
Sodding	4	-	-	-	-	79.50	Gravel.
Summit	1	-	-	-	-	37.09	Sodding borders.
Sunmer	6	742.90	103.94	172.06	-	11.66	Gravel.
Temple	3	86.17	-	-	-	579.40	Partly gravel.
Thornton	1	-	3.29	-	-	32.38	
Valentine	3	-	-	-	-	2.96	
Vernon	7	-	-	-	-	30.23	Gravel.
Walnut	5	158.13	77.83	98.92	-	16.50	Gravel.
Waltham	3	183.18	68.32	54.97	-	381.59	
Washington		660.63	97.64	277.51	124.15	212.33	Partly gravel.
						1,217.77	

Watertown	2	185.44	-	6.62	-	140 98	Partly gravel.
Waverley avenue	7	182.25	-	16.10	-	183 08	Partly gravel.
Webster	3	-	-	-	-	42 88	Gravel.
West	1	-	-	-	-	9 25	Gravel.
Winter	5	-	-	-	-	4 00	Gravel.
Winthrop	3	-	-	-	-	4 75	Gravel.
Wolcott	4	-	-	-	-	9 99	Gravel.
Woodbine	4	-	-	-	-	15 25	Gravel.
Woodland avenue	4	646.36	111.01	119.48	-	616 22	Patching and grading.
Miscellaneous		-	-	-	-	892 37	
Totals	-	9,808.37	2,412 07	1,326.27	764.43	\$14,214 95	

Watering of Streets.

The appropriation was expended as follows : —

Amount appropriated by order of the City Council for the year 1889	\$6,550 00	
Amount transferred to other ap- propriations	345 16	
Total amount expended		\$6,204 16
Paid water department, for use of water	1,797 84	
Timothy Stuart, watering ward 1 and southeast part of ward 7 .	975 00	
John Joyce, watering north part of ward 7	300 00	
Wm. H. Mague, watering wards 2, 3 and 4	1,900 00	
Thos. R. Frost, watering ward 6 .	902 50	
J. M. Keating, watering ward 5 .	317 50	
Newton Cemetery, watering Wal- nut street	12 00	
Total.		\$6,204 84

WATER DEPARTMENT.

A report upon the question of high water service was submitted unto the Water Board early in the year, calling their attention to the importance of considering the question of an additional water supply and improved fire service, in connection with that of a high water service which had previously been referred to me to report upon.

Authority was obtained from the City Government to consider the whole question of the needs of the water service for the city, having in view not only the present, but also its future requirements.

In considering the question of an additional water supply, it became apparent that additional land bordering on the Charles River in the town of Needham would be required. Authority to take such land as was needed was obtained from the State Legislature by the passage of the following act.

Chap. 302. An Act to Provide an Additional Water Supply for the City of Newton.

SECTION 1. The City of Newton is hereby authorized to take, hold and convey into and through said city from the Charles River or from the ground near said river, at any convenient point upon or near the same, water for the use of said city and the inhabitants thereof not exceeding five million gallons daily, including the one and one-half million of gallons daily which it is now authorized to take by chapter three hun-

dred and forty-four of the acts of eighteen hundred and seventy-two. All the provisions of said chapter three hundred and forty-four except as herein otherwise provided shall apply to the additional three and one-half millions of gallons daily so far as the same shall be taken or diverted from said river.

SECT. 2. Whenever said City of Newton shall desire to take water as herein provided it shall, by vote of its City Council, determine what amount daily it will take of said five million of gallons herein provided for, and it shall thereupon be lawful for said city to take only the amount daily from said river provided for by said vote, in addition to the amount taken upon the provisions of said chapter three hundred and forty-four, and any damages provided for in said act shall be determined upon the amount to be taken by said vote. Whenever said City of Newton shall desire to take a further portion of said five million of gallons it shall again determine as aforesaid by vote of its City Council the amount in addition to be taken daily, and like proceedings may be had for damages as provided in said act; and like proceedings may be had from time to time as said City of Newton shall decide to take further portions or the whole of said five million of gallons daily.

SECT. 3. Said City of Newton may for the purposes of taking water as aforesaid and for the protection of its water supply take and hold, by purchase or otherwise, any lands within the town of Needham necessary for that purpose.

SECT. 4. This act shall take effect upon its passage.
(Approved May 3, 1889.)

Borings to determine the nature of the drift material underlying the surface of the territory bordering on each side of the Charles River from the filtering conduit to the line between Newton and Boston were made under the direction of Assistant Engineer, Mr. Fred O. Doane.

They were made by driving 2 1-2 inch wrought iron pipes with open ends into the ground and extracting the core with a sand bucket.

If these samples were taken continually during the driving, the character of the substrata could be fairly determined.

The numerous complicated conditions affecting the best solution of the question submitted, rendered their most careful consideration imperative, and I requested authority to consult with Mr. A. Fteley of New York, Chief Engineer of the New York Aqueduct Commission, upon the whole question.

By vote of the Water Board the whole question was resubmitted to Mr. Fteley and the City Engineer, to consider and report on at as early a date as possible.

I felt that Mr. Fteley as Executive Engineer for the Boston Water Board, having examined and reported upon the Charles River as a source of water supply for the City of Boston, was familiar with the conditions affecting our supply and having charge of the construction of the Sudbury River Conduit through the City of Newton at the time the Newton Water Works were being constructed, he was familiar with the topography of the city and the details of our works.

From this experience together with his high standing as an engineer of good judgment and broad experience, I felt that the results of the consideration of the question and the recommendations embodied in any report which would be submitted, would be of greater value than could be obtained from any other source.

After the careful joint consideration of the questions submitted, a report* together with estimates was submitted, and the recommendations adopted by the City Government. The necessary appropriations were made and work ordered to be done.

*For report see Water Board Report for 1889.

The order of the City Government taking lands in Needham and Newton for an additional water supply necessitated the examination of the records and the surveys and location of the boundaries of some 55 estates and about 1000 acres of land. The work is now being performed, but the flooded condition of the meadows makes the work very difficult.

Surveys have been made, levels taken and grades for the laying of water mains have been established on streets covering a total length of 17,786 3-10 feet.

There have been located two hundred and twenty-five services and extensions, laid during the year.

Plans, estimates and diagrams have been made of all special work of this department.

The regular meetings of the Water Board have been attended and such subjects investigated, or work superintended, as specially directed by the Water Board, Registrar or Superintendent.

BOARD OF HEALTH.

As consulting engineer for the Board of Health, investigation and plans were made for the drainage of various districts, and by order of the Board the City Engineer was directed to carry out the plans for the drainage of the Knowles street district, Ward 6, and Clinton street district, Ward 2.

The work in the Knowles street district was executed by men in the employ of Mr. Arthur Muldoon at a cost of \$570, and that in the Clinton street district by the highway department at a cost of \$604.72. The work was carefully performed and the districts greatly benefitted.

ACKNOWLEDGEMENTS.

I would respectfully tender my acknowledgements to His Honor the Mayor, the Water Board, the Board of Health, and the various committees of the City Council, for the support which they have given.

I wish also to acknowledge the courtesies shown by the various heads of departments and the co-operation of the assistants of this department.

Respectfully submitted,

ALBERT F. NOYES,

City Engineer.

ORDINANCES RELATING TO THE CITY ENGINEER'S DEPARTMENT.

ORDINANCE IX.

City Engineer.

SECTION 1. The office of the City Engineer is hereby established.

Office estab-
lished.

SECT. 2. He shall have charge of all the plans of the streets, drains, sewers, water-works, and lands of the city; and shall classify them, and put them in convenient form for reference and use. He shall make all plans, surveys, measurements, and levels pertaining to the streets, drains, sewers, lands, water-works, etc., and perform such other duties properly belonging to his office as may be required of him by the Mayor, the Board of Aldermen, or any committee of the City Council. Drains and sewers shall be constructed and repaired under his supervision and direction.

Duties.

Charge of
plans.
Make plans,
surveys, etc.

SECT. 3. He shall prepare all orders, resolves, and other papers relating to street widenings, extensions and alterations, which the Joint Standing Committee on Highways may require, and shall furnish the City Solicitor with descriptions of lands at his request.

Orders, etc.

SECT. 4. He shall keep a set of books showing all the debits and credits to every estate, the whole or a portion of which may be taken to lay out,

Accounts.

widen, or extend a street, or which may be assessed under any betterment law ; and all bills for assessments made under any betterment law shall be made out by him, and deposited with the City Treasurer for collection.

Reports.

SECT. 5. He shall annually, in the month of January, present to the City Council a report for the year ending on the last day of December preceding, giving in detail the cost of all special work of the highway department, the expenses of his own department, the number of persons employed therein, and a description of the work done.

ORDINANCE XVI.

Highway Department. — Streets and Ways.

Drains and
Sewers.

SECT. 4. Under the direction of the City Engineer, he (the superintendent of streets) shall attend to the making and repairing of drains and sewers.

ORDINANCE XXIV.

Buildings.

Applications
to City Engi-
neer for
street lines
and grades.

SECT. 5. No person shall proceed to erect or make alterations in the location or grade of any fence, wall, or building, a part of which is to abut upon a public street, lane, square, or alley, without first applying to the City Engineer for the lines and grade of the street, lane, square, or alley upon which he intends to build. Such application shall be made at least fifteen days before the work is begun ; and the City Engineer shall within said time furnish the required lines and grade without charge, if in his power so to do. In default of such application

the city shall be discharged from all responsibility for damages resulting from such default.

SECT. 6. Whenever the City Engineer ascertains that any structure has been placed in violation of the preceding section, he shall at once give notice to the Mayor and Aldermen, in writing, of such violation; and, upon receipt of such notice, the Mayor and Aldermen may forthwith issue an order to the party offending, directing that the structure be removed within the time therein specified; and in case of non-compliance, the Mayor and Aldermen shall direct that the incumbrance be removed at the expense of the delinquent.

Violation.

SECT. 7. Whoever violates any provision of the two preceding sections of this ordinance, shall be liable to a fine not exceeding twenty dollars.

Penalty.

RULES AND REGULATIONS OF THE NEWTON WATER
DEPARTMENT,
RELATING TO THE CITY ENGINEER.

SECTION 2. — ORGANIZATION.

1. Beside the offices of the Water Registrar and Superintendent established by ordinance, the permanent organization of the department shall be as follows : —

A Civil Engineer, an Inspector of Meters and Fixtures, a Pumping Engineer, a Fireman, a main-pipe Foreman, a service-pipe Foreman, three Teamsters, and a Clerk in the office of the Water Board. It is understood that the City Engineer is the Civil Engineer of this department.

SECTION 6. — ENGINEER.

1. Upon receipt of orders therefor from the Board, the City Engineer shall, within twenty-four hours, establish lines and grades for the extension of all water-mains, and shall take such measurements of main and service pipe extensions, and their appurtenances, as will enable him to correctly locate and plat the same : he shall keep the returns from the Pumping Engineer closely posted up, and shall plat therefrom a diagram showing the engine duty.

2. He shall make a daily report to the Water Registrar of the progress and condition of the work under his charge.

3. He shall perform such other duties as the Board may from time to time by vote require of him.

CITY OF NEWTON.

ANNUAL REPORT

OF

THE CITY MARSHAL,

FOR THE YEAR ENDING DECEMBER 31, 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS,
1890.

CITY MARSHAL'S REPORT.

OFFICE OF CITY MARSHAL
WEST NEWTON, December 31, 1889.

TO HIS HONOR THE MAYOR, AND THE CITY COUNCIL OF NEWTON :

I have the honor to submit for your consideration the Sixteenth Annual Report of the Newton Police Department for the year ending December 31, 1889.

Arrests.

Whole number of arrests	.	.	.	.	.	.	.	709
Arrests on warrants	.	.	.	.	.	.	.	242
Arrests without warrants	.	.	.	.	.	.	.	467
Held for trial	.	.	.	.	.	.	.	666
Discharged on examination	.	.	.	.	.	.	.	44
Males	.	.	.	.	.	.	.	669
Females	.	.	.	.	.	.	.	40
Americans	.	.	.	.	.	.	.	363
Foreigners	.	.	.	.	.	.	.	346
Residents	.	.	.	.	.	.	.	580
Non-residents	.	.	.	.	.	.	.	129
Minors	.	.	.	.	.	.	.	114

Arrests at Each Police Station.

Station No. 1, Newton	57
Station No. 2, Nonantum	73
Station No. 3, West Newton	497
Station No. 4, Newton Centre	82
	709

Arrests Made Each Month.

	Males.	Females.	Total.
January	49	5	54
February	37	1	38
March	30	3	33
April	37	4	41
May	81	1	82
June	54	3	57
July	80	2	82
August	74	6	80
September	67	6	73
October	78	3	81
November	42	5	47
December	40	1	41
	669	40	709

Local Police Work.

Newton	68
Nonantum	101
Newtonville	76
West Newton	212
Auburndale	59
Lower Falls	12
Newton Centre	78
Newton Highlands	27
Upper Falls	76
	709

Offences for Which Arrests were Made.

Assault	7
Assault and battery	49
Assault, felonius	1
Assault on officer	3
Aiding in maintaining a liquor nuisance	1
Breaking glass	8
Bastardy	4
Breaking and entering	2
Contempt of court	5
Concealing leased property	1
Cruelty to animals	3
Default warrants	4
Disturbing the peace	75
Destroying public property	3
Disturbing religious meeting	4
Dipsomania	2
Destroying personal property	1
Drunkenness	334
Evading carriage fare	1
Embezzlement	7
Evading car fare	7
Fraud	2
Fornication	2
Incendiarism	1
Insane	15
Indecent exposure	1
Larceny, simple	30
Larceny, felonious	5
Neglected children	3
Non-support of family	2
Obtaining money by false pretences	2
Profanity	1

Refusing to assist an officer	1
Resisting an officer	1
Stubborn children	4
Stealing a ride	3
Setting bonfire	2
Suspicious persons	3
Threatening bodily harm	2
Tramps	13
Violation of city ordinances	27
Violation of dog law	13
Violation of liquor law	43
Violation of railroad law	4
Violation of the Lord's day	6
Violation of revenue law	1

 709

Females were Arrested for the Following Offences:—

Assault and battery	7
Concealing leased property	1
Contempt of court	1
Drunkenness	8
Dipsomania	1
Disturbing the peace	1
Fornication	1
Insane	6
Larceny, simple	4
Stubborn children	2
Violation of dog law	1
Violation of city ordinance	1
Violation of liquor law	6

 40

Germany	25
Sweden	11
France	1
Poland	3
Denmark	2
Italy	8
	1042

Reports made by Patrolmen to City Marshal.

Accidents	89
Buildings found opened and secured	64
Buildings erected	255
Cases investigated	389
Defective streets	38
Defective sidewalks	18
Defective water-pipes	13
Defective drains	3
Disturbances suppressed	68
Dangerous buildings	1
Fire alarms	45
Fires extinguished without alarm	29
Intoxicated persons helped home	5
Lost children restored	4
Notices served by the department	22,617
Street obstructions removed	12
Sick and injured persons assisted	50
Stray teams put up	16

Miscellaneous Business.

Amount of property reported stolen in the city	\$1,996 00
Amount of property recovered	1,194 00

Witness fees earned by officers, paid by clerk of police court to the city treasurer	1,557 00
Amount of fines imposed by court . . .	6,605 34
Imprisonment imposed by court . . . 17 years, 3 months	
Extra duties done by officers	91
Number of search warrants for liquor served	48
Number of liquor seizures	36
Number of search warrants for stolen property served	9
Gallons of liquor seized	151

The following cases were reported to the medical examiner: —

Feb. 25.	Patrick Fitzgerald	Accident.
March 27.	Nicholas Mead	Suicide. Pistol.
April 20.	Frank Marshall	Drowned in Charles River.
May 14.	John Burns	Killed by cars.
June 13.	Thomas Earl	Buried in sand bank at Newtonville.
June 16.	Timothy Crowley	Drowned in Charles River.
June 16.	Sarah N. Holt	Drowned in Charles River.
July 6.	Katie Riley	Suicide. Paris Green.
July 21.	John Peters	Cause, unknown.
Nov. 24.	Warren Pope	Accident.
Nov. 27.	Patrick Coleman	Natural causes.

Police Organization.

Charles F. Richardson, City Marshal.
 Charles E. Davis, Captain, day duty at headquarters.
 Charles P. Huestis, Sergeant, night duty at headquarters.
 James D. Henthorn, Patrolman, day duty at Newton.
 Charles O. Davis, Patrolman, day duty at Nonantum.
 Noah F. Bosworth, Patrolman, day duty at Newtonville.
 John Ryan, Patrolman, day duty at West Newton.
 Frank B. Fletcher, Patrolman, day duty at Newton Centre.
 John Pureill, Patrolman, day duty at Upper Falls.
 William C. Emerson, Patrolman, night duty at Newton.
 Charles T. Bartlett, Patrolman, night duty at Chestnut Hill.
 Richard B. Conroy, Patrolman, night duty at Newton,
 John W. Conroy, Patrolman, night duty at Nonantum.
 Bernard F. Burke, Patrolman, night duty at Nonantum.
 Thomas C. Clay, Patrolman, night duty at Newtonville.
 William P. Soule, Patrolman, night duty at Newtonville.
 Edson C. Holmes, Patrolman, night duty at West Newton.
 A. F. A. G. Libby, Patrolman, night duty at West Newton.
 William G. Bosworth, Patrolman, night duty at Auburndale.
 John W. Quilty, Patrolman, night duty at Auburndale.
 Robert S. Harrison, Patrolman, night duty at Lower Falls.
 Ambrose H. Fuller, Patrolman, night duty at Newton Centre.
 R. H. Moulton, Patrolman, night duty at Newton Highlands.
 William A. Leonard, Patrolman, night duty at Upper Falls.
 George E. F. Baker, night officer at Newton, died March 4,
 after a long period of great suffering.

Additions to the force were: — Richard B. Conroy,
 appointed March 18; William A. Leonard, appointed March
 18; Bernard F. Burke, appointed December 16.

Street Lamp Lighting.

At this date there are seventy-four (74) electric arc lights, seven hundred and fifty-four (754) gas lights, three hundred and seventy-three (373) oil lights, one hundred and seventy-six (176) incandescent lights, used for street lighting, a total of thirteen hundred and seventy-seven (1377) lights.

The regular lighting of the street lamps for the year 1890, if lighted by the moon schedule, will be as follows, both dates included : —

- First lighting, January 6, to January 26.
- Second lighting, February 5, to February 24.
- Third lighting, March 6, to March 25.
- Fourth lighting, April 4, to April 23.
- Fifth lighting, May 4, to May 23.
- Sixth lighting, June 2, to June 21.
- Seventh lighting, July 3, to July 22.
- Eighth lighting, August 3, to August 22.
- Ninth lighting, September 2, to September 21.
- Tenth lighting, September 30, to October 19.
- Eleventh lighting, October 29, to November 7.
- Twelfth lighting, November 27, to December 16.

Appropriation for police department for 1889	.	\$33,195	00
The amount expended		26,663	44
Balance		\$6,531	56
The amount expended		\$26,663	44
Fees paid by clerk of court to City Treasurer	.	1,557	00
Total expense for the department		\$25,106	44

Station Houses.

At police Station No. 3. (Police headquarters) I make the same recommendations as last year, that one of the cells be padded for the confinement of insane persons.

The several police stations are all in good condition, as is also the city property used by the department.

Police Signal System.

The Police Signal System, for which money was appropriated in 1888, is partly completed and will probably be finished the following year. The contract for furnishing the system, was awarded to the Gamewell Co. of New York.

Liquor Law.

In regard to this law, I have made an honest effort to suppress the illegal sale of intoxicating liquor in this city, and I submit it to the citizens of Newton to say whether I have been successful in the attempt, having secured thirty-six convictions during the year.

A table showing the gradual growth of the police department, and the increase of its business during the past ten years.

YEAR.	Officers on Force.	Number of Arrests.	Amount Expended for Police Department.	Court Fees Earned.	Balance Un- expended.
1880 . . .	16	346	\$16,777 94	\$650 00	\$222 06
1881 . . .	16	402	16,930 96	808 00	69 04
1882 . . .	16	410	17,558 39	957 62	*58 38
1883 . . .	16	408	17,199 57	780 32	500 43
1884 . . .	16	462	17,752 52	820 50	72 48
1885 . . .	18	485	19,498 17	702 62	1 83
1886 . . .	20	528	21,591 46	674 16	2 54
1887 . . .	22	574	23,344 85	1119 81	5 15
1888 . . .	23	630	24,594 94	1321 00	105 06
1889 . . .	24	709	26,663 44	1557 00	6531 56

* Overdrawn.

In conclusion I desire to tender my thanks to His Honor the Mayor, and Committee on Police for the interest manifested in this department. While desiring that the management of this department should be conducted with economy, they evinced a disposition that nothing should be left undone to increase its usefulness, believing that a police department properly conducted and well equipped, is of the greatest benefit to a community.

Respectfully submitted,

CHARLES F. RICHARDSON,

City Marshal.

ANNUAL REPORT
OF THE
CHIEF OF FIRE DEPARTMENT
AND
SUPERINTENDENT OF FIRE AND POLICE
TELEGRAPH
OF THE
CITY OF NEWTON

FOR THE YEAR ENDING DECEMBER 31, 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS,
1890.

JOINT STANDING COMMITTEE ON FIRE DEPARTMENT.

Meetings, last of each month at City Hall.

Alderman GEORGE PETTEE, Chairman.

Residence, between Oak and Chestnut streets, Newton Upper Falls.

Alderman N. H. CHADWICK.

Residence, 183 Walnut street, ... Newtonville.

Councilman FREDERICK J. RANLETT.

Residence, Central street, ... Auburndale.

Councilman GEO. F. RICHARDSON.

Residence, 63 Bowen street, ... Newton Centre.

Councilman LOUIS A. HALL.

Residence, 60 Elmwood street, ... Newton.

REPORT.

FIRE DEPARTMENT HEADQUARTERS,
OFFICE CHIEF OF DEPARTMENT.
WEST NEWTON, MASS., December 31, 1889.

TO THE HONORABLE, THE CITY COUNCIL :

I have the honor herewith to present the report of the operations of this Department for the quarter ending December 31, 1889, and for the year ending upon the same date.

Fires and Losses.

Eighty-six (86) calls have been received during the year resulting in a total loss upon buildings and contents of \$38,055.62 upon which insurance amounting to \$33,335.90 was paid, leaving a loss of \$4,719.72 in excess of insurance paid.

Notable Fires.

The largest fire and loss of the year was occasioned by the destruction of the St. Bernards Catholic church, Washington and Prospect streets, June 23. The first call was received at 6.32, followed at 6.36 p. m. by the second and general combined, calling into service the entire Department, two engines, seven reels, one truck, and chemical engine. The general plan of construction of these buildings provides for their quick destruction in all cases where the fire obtains headway, and this building proved no exception to the rule, the roof and interior to the first floor being destroyed, but the walls were left intact and in condition for use in the re-building. This fire was made the occasion for severe criticism

(as is usual in such cases) directed against the Chief of Department, mainly for the reason that Reserve Engine No. 2 was not placed in service. As nothing has since been advanced to show that such a proceeding would in anyway have checked the fire, or added to the salvage of the owners or insurance companies, while the fact that the force present and in service were fully competent to confine the limits of the fire, and protect surrounding property, is satisfactory evidence that the department performed its full duty in the premises.

November 26th, this department was called upon to render aid at the fire then beyond control at Kingston and Bedford streets, Boston, and Engines 1 and 2, with details from Companies 4, 5, 6, 7 and 1 Truck, numbering 38 men in charge of the Chief of Department, were assigned to duty at Bedford street and Harrison avenue extension, where five hours' service was rendered upon property, the owners of which were residents of this city. At this fire No. 2 Reserve Engine rendered its first service since being retired June 25, 1886, and its unvarying record of 150 lbs. water pressure for five hours through 700 feet of hose to the roof of a five story block, speaks volumes for its condition, alike creditable to the Amoskeag Engine, and the engineer in charge.

During the absence of the above detail from the city, Assistant Chief Randlett made the following assignments, No. 4 Hose to No. 1 Engine Station, No. 5 Hose to No. 2 Station, extra horses and drivers for Chemical A, together with Engine 3, Hose 6, 7 and No. 1 Truck, 29 Engine in the Brighton district, and No. 1 Engine at Watertown, the interests of the city so far as apparatus went were well protected, but the temptation to the balance of the "call force" to witness the conflagration, led them with few exceptions to leave the city; fortunately but one fire occurred, and that of a trifling nature.

Uniformed Force.

Chief of Department	1
Assistant Chief in charge of Fire and Police Telegraph	1
Engineers Steam Fire Engines	2
Engineer of Chemical and Reserve Engine	1
Drivers of Steam Fire Engines	2
Driver of Chemical Engine	1
Driver of Truck	1
Drivers of Hose Reels	5
Telegraph Line Man	1
Total	15

Ununiformed Force.

Foremen of companies	8
Assistant foremen of companies	8
Hose and truckmen	39
Total in active service	70

Apparatus

In service consists of:—

Steam Fire Engines	2
Chemical Engine (No. 4 Champion)	1
Truck	1
Hose Reels	7
Coal Tenders	2

In reserve:—

Steam Fire Engine (complete)	1
Exercise wagons	3
Sleighs	6

In charge Chief of Department:—

Concord buggy	1
Sleigh	1

In charge Assistant Chief:—

Concord buggy	1
Sleigh	1

Hose.

The present equipment of hose amounts to 8,450 feet, 1500 feet of which is in poor condition and the hose purchased in 1880 will soon have to be replaced with new. The best average for Fabric hose for service in this department is limited to eight years.

Horses.

Seventeen horses are owned and used by this department. New horses were purchased by the committee during the year for Hose 3 and 5 to replace those unfit for service.

Their general condition, etc., together with changes considered necessary, which are submitted in the report of the Department Veterinarian herewith annexed, are respectfully presented with my endorsement.

Stations.

Very general repairs to floors at Stations 2, 3, 4 and 5 will be necessary, especially the latter, where new floor timbers are required, also thorough repairs to roofs and gutters. Slight improvements have been made to the drainage at No. 2 Station.

The present sheds used for storage and the steam roller at the Truck Station should be removed to some more suitable location, the lack of windows and free access of sunlight keep the rooms damp and unhealthy at all times. New front doors at this station are a necessity.

The negligent and hap-hazard manner in which the manure is removed from the several stables is decidedly unpleasant and calls for immediate abatement.

Hydrants.

A total of 606 street hydrants are available for the use of this department. Hydrants in the business centres should be

located not to exceed 200 feet apart, and those in the public squares, where the size of main will permit, should have 4-way attachments.

Additional hydrants are needed as follows :—

Centre street, opposite National Bank.

Centre street, opposite Public Library.

Centre street, between Newtonville avenue and Bellevue street.

Lake avenue, 400 feet east Walnut street.

Washington, between Harvard and Crafts streets.

Newtonville avenue, 400 feet west Harvard street.

Fountain, between Otis and Highland streets.

Highland, between Temple and Chestnut streets.

Grove and Auburn streets.

Auburndale avenue, 700 feet east Lexington street.

Centre street, between Ward street and Clinton place.

Lake avenue and Beacon street.

Station, between Warren street and Glen avenue.

Needham and Winchester streets.

Forest and Alpine streets.

Webster street and Webster place.

Watertown and Eden streets.

Prince, 500 feet north Day street.

Maple street and Berkeley place.

Shaw, between Lander and Winthrop streets.

Walcott park.

Chestnut and Margin streets.

Recommendations.

The amount of property both personal and real, requiring the protection of this department, has passed the stage of dependence upon a "call force" of firemen, a body of men with divided interests, those of the employer and the employed upon the one hand, and that of the city upon the other. This

is not true economy, and should have no part nor parcel in a city with the population and values of Newton.

The call force of today is simply the dividing line between the old time volunteers and the full paid employee who devotes his entire time to the interests of the city. They have rendered faithful service in the past, but the requirements of the present day have outgrown this form of duty. At every alarm the present service is crippled from lack of men at the very moment when most needed.

I would, therefore, recommend that Companies 1, 2 and 3 be made full permanent, to consist of six men including engineer and driver, No. 1 Truck to consist of seven men including driver, No. 4 Hose to consist of four men including driver, a total of twenty-nine men and a consequent reduction of twenty-three men from the call force, and thus provide a working force of firemen, whose services can be depended upon at all times, with no possibility of delay, or lack of men to handle the apparatus. I would ask your careful consideration of the above recommendation.

Fire Alarm Signal Stations should be placed in each of the school buildings not already provided, also the Public Library, and old Williams school building, as additional safeguards in case of fire.

I know of no reason in justice or equity, why the salaries of the drivers of this department should not be placed upon an equality with those paid employees in other departments.

Stringent building regulations must be adopted at an early day with reference to the erection of wooden buildings in the business centres. No thought or care appears to exist in the minds of owners, other than to utilize every foot of land. Brick, fire, or parti-walls, receive no consideration, but everything is planned for their quick destruction and that of all surrounding property in case of fire,

The Chemical Engine which replaced No. 2 Engine June 25, 1886, has saved property from fire and water damage many times in excess of that credited the larger engine, and for this special service must still continue to be the more valuable apparatus of the two, but as an important auxiliary in case of accident, or large fire, I consider it necessary to recommend the enlargement of No. 2 Station sufficient to provide for the placing of this apparatus in service.

Early provision should be made for the providing of suitable apparatus at the Highlands.

Acknowledgements.

My sincere acknowledgements are tendered His Honor the Mayor, to Alderman Geo. Pettee chairman, and members of the Committee on Fire Department, for their cheerful co-operation and earnest efforts to promote the efficiency of the department; to Assistant Chief Walter B. Randlett I am especially indebted for his uniform courtesy and fidelity; to the employees and members for the success attending their efforts; to the City Marshal and members of his force, their services are invaluable, and the several heads of departments and their subordinates for courtesies extended.

Appropriation and Expenditures.

The appropriation for this department was \$28,338.50 and the expenditures have been as follows:

Salaries of the uniform and call force	. . .	\$19,292 81
Hay, grain, etc.	, ...	2,652 00
Fire and Police Telegraph and Telephone maintenance, including 6 fire alarm stations and erecting same		1,786 56
Coal and wood		1,102 23
Gas and water rates		518 15
Repairs apparatus		565 38

Shoeing horses	412 66
Exchange horses	425 00
Laundry	162 46
Incidentals	1,861 60
	\$28,778 85
Over drawn	\$440 35

Fire and Police Telegraph.

The service in this department has been perfect. The overhead lines have been maintained in exceptional good condition throughout the year, one hundred and thirty-five miles of overhead wire placed upon nine hundred and twenty-seven poles for the use of Fire, Police and Water Departments, requires the constant supervision of this department. Forty-seven first alarms, two second, and one second and general combined, including eight hundred and twenty-five signal blows have been correctly sent out.

Upon petition of residents, the City Council authorized the purchase of six additional street signal stations which were located as follows:

Homer and Cedar streets.
 Centre street and Norwood avenue.
 Jewett and Boyd streets.
 Woodland and Vista avenues,
 Boylston and Chestnut streets.
 Shaw and Winthrop streets.

In addition to these special signal stations have been connected into circuit at

Silver Lake M'fg. Co., Nevada street.
 Newton Mills, Elliott and Chestnut streets.

Making a total of seventy-six public and private signal stations.

It is important that additional signal stations should be located as follows:—

Crafts and Washington streets.

Centre between Franklin and Bellevue streets.

Pearl and Green streets.

Centre and Ward streets.

Beacon street and Crescent avenue.

Centre between Walnut and Boylston streets.

Lincoln and Bowdoin streets.

Woodward and Chestnut streets.

Grove and Central streets.

Highland and Valentine streets.

River and Lexington streets.

Cherry and Henshaw streets.

Washington and Cross streets.

Murray and Otis streets.

Station street (Thompsonville),

That the reliability of the present system may be maintained, I would again recommend the necessity for the purchase of a larger repeater, and a sub-division of the present circuits.

For the protection of instruments and buildings from electric light currents, automatic protectors must be provided for the several telephone lines entering city buildings, and fusible cut outs for the tap bell circuits.

Immediate provision must be made to render the telephone service between the several stations available through the night, the present interference from the belt line lamp circuits is such, as to greatly impair and at times entirely prevent its use.

Police Telegraph.

The contract for the Police Signal System having been awarded to the Gamewell Fire and Police Telegraph Co., call-

ing for four circuits, and twenty street or call stations, the same is now being erected under the supervision of this department, and so far as practicable, four pin arms have been substituted, and the fire and police wires carried upon the same arm. With this arrangement satisfactory service will be guaranteed both departments.

The following is a summary of labor performed in the Telegraph department by and under the supervision of the Assistant Chief:—

New poles set	130
New poles moved	5
Old poles removed	70
Old poles re-set	6
Wire strung No. 9 iron . . .	4 1-2 miles
Wire strung No. 12 iron . . .	2 “
Wire strung No. 12 copper . .	3-8 “
Wire strung insulated No. 12 iron	3-4 “
Wire strung Clark ins. . . .	1200 feet.
Wire strung parafine	1500 feet.
Wire strung No. 1 to No. 2 station No. 12 iron	3 miles.
Old wire removed	2 1-2 miles.
Signal stations moved	8
New signal stations placed in circuit	8
New instruments placed in cir- cuit relays	3
New instruments placed in cir- cuit magnetoes	2
New instruments placed in cir- cuit ex-bells	2
New instruments placed in cir-	

cuit gong 15 inches . . .	1
New instruments placed in cir-	
cuit tap bell . . .	1
Remodelled striking machine at	
Newtonville . . .	1

All street signal stations painted and varnished and new key signs provided where needed.

WALTER B. RANDLETT

Assistant Chief (in charge.)

ELECTRIC LIGHT DEPARTMENT.

Since the control of the electric light plant has passed from the private company to the Newton and Watertown Gas Company, marked improvement is shown in the general care and maintenance of these lines. There are still sections of overhead wire known as "underwriters," which should be replaced with improved wire at an early day.

The erection and extension of belt line lamp circuits is contrary to ordinance, and will entail additional expense upon the city to protect its telephone service, which at the present time is seriously impaired between stations during the hours when these lamps are in circuit.

The suspending of arc lamps over the streets upon wire guys is a dangerous as well as an unnecessary proceeding. These lamps should be placed upon the tops of poles or upon suitable arms and nothing different be allowed.

The present manner of entering business blocks, etc. with lamp circuits is decidedly objectionable and will also seriously interfere with the movements of the Fire Department in case of fire.

Wherever the Electric Light and Power wires pass in parallel lines upon the same side of the street with the Fire and Police Telegraph, a space of three feet between their lines is required for the safe passage of our linemen without danger of contact.

A constant and rigid supervision must be maintained over these lines, that the dangers from accidents and fires may be reduced to the minimum.

REPORT OF DEPARTMENT VETERINARIAN.

NEWTON, January 1, 1890.

HENRY L. BIXBY, *Chief of Department.*

Sir:— I have again at this time the duty of tendering my report to you in regard to the health and general welfare of the horses of the department during the past year, and at the same time to make some suggestions in regard to the horses which seem to me to be wise.

The general health of the animals has been good and we have had no epidemic, or more properly epizootic, to contend with during the year, nor have we had any deaths among them.

The diseases and troubles which have been manifested are only those which usually manifest themselves among such horses as ours, from which we demand hard exciting service and in return give superior care.

We have in this department some as good horses as any city can boast of and there are others which it would be advisable to change around and still others to replace with younger and more suitable horses.

I would suggest that the off-horse on Steamer No. 1 be transferred to Hose 6 as soon as a permanent man is appointed as driver for that company and that a new horse be purchased for the engine. I recommend this change for the reason that the off-horse is not enough horse for his mate, and that being over exerted to keep up when called to a fire it makes his work extra hard to say nothing about the effect upon the other horse

and the strain upon the driver to hold one back and force the other, in addition he is at times troubled with his hind legs getting out of order.

The horse on Hose 5 in the early part of the year became so lame that recovery was a matter of months and uncertainty at that, so that he was sold and a new one purchased by the committee.

It seems to me that there should be an extra horse belonging to the department so that in case of sickness or accident we can immediately have an available animal, and not only that but in case some little thing is the matter with the regular animal, and which does not warrant his being laid off still we could do so without inconvenience to any one and without extra expense.

I wish to acknowledge at this time my appreciation of your hearty cooperation in the carrying out of such treatment and changes as I have suggested from time to time; and also that of the Assistant Chief, nor am I unmindful of the cheerful and ready acquiescence of the various members of the department in the carrying out of my treatment.

I have made during the year the usual number of visits and have found about the usual variety of troubles as in previous years.

I have the honor to be

Yours very respectfully,

MADISON BUNKER,

Department Veterinarian.

STATEMENT OF DETAILS OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1889.

Jan. 7 — Still. 2.15 P. M. Centre street. Two-story brick, 60 x 130, owned by C. B. Lancaster. Occupied by C. O. Tucker and others. Loss, \$15. Insured. Cause, dropping of lighted match in sawdust and oil. Apparatus present Hose 1. Capt. Lyons.

Jan. 19. — Station 73. 2.10 P. M. Station street. One-story frame, 8 x 10. Flag station, owned and occupied by B. & A. R. R. Loss, \$75. Insured. Cause, overheated stove. Apparatus present: Engines 3 and A; Hose 4, 7 and Truck 1. Chief and Assistant Chief.

Jan. 19. — Still. 4 P. M. Brook Street. Grass land. Cause, locomotive sparks, Extinguished by Drivers Deary and Dexter. Engine 1.

Jan. 24. — Station 24. 4.23 P. M. Pearl and Thornton streets. By order His Honor the Mayor, as an exhibit of the department before a Legislative Committee. Apparatus present: Engines 1 and A; Hose 4 and Truck 1. Chief and Assistant Chief.

Feb. 2. — Station 35. 9.12 A. M. Prospect street. Two-story frame, 40 x 80 planing mill, owned and occupied by Wm. Pettigrew. Loss, \$1,762.75. Insured. Cause, over-

heated stove pipe. Apparatus present: Engines 1 and A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

Feb. 6. — Station 45. 2.51 A. M. Douglass street. Two-story frame paint shop, 14 x 28, owned and occupied by Samuel Roosa. Loss, \$500. Insured. Cause, incendiary. Apparatus present: Engines 1 and A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

Feb. 10. — Station 72. 8.03 A. M. Beacon street and Crescent avenue. Three-story frame dwelling, 40 x 60, owned and occupied by E. H. Haskell. Cause, overheated stove pipe. Loss, \$46. Insured. Apparatus present: Engines 3 and A; Hose 4, 7 and Truck 1. Chief and Assistant Chief.

Feb. 11. — Station 14. 4.46 P. M. Washington and Crafts streets. Two and half-story frame dwelling, 40 x 60, owned and occupied by C. P. Harkins. Loss, \$1300. Insured. Cause, smoking in bed. Apparatus present: Engines 1 and A; Hose 2, 4 and Truck 1. Chief and Assistant Chief.

Feb. 13. — Station 14. 2.53 A. M. Church and Richardson streets. One-story frame engine house, 20 x 40, owned and occupied by Newton Coal Co. Loss, \$638. Insured. Cause, sparks from furnace. Apparatus present: Engines 1 and A; Hose 2, 4 and Truck 1. Chief and Assistant Chief.

Feb. 23. — Station 13. 4.47. Second, 4.51 P. M. Sargent street and Hyde avenue. Three-story frame dwelling. 30 x 40, owned and occupied by Kirk W. Hobart. Loss, \$468. Insured. Cause, children playing with lighted candle in closet. Apparatus present: Engines 1, 3 and A; Hose 2, 4, 7 and Truck 1. Chief and Assistant Chief.

Feb. 23. — Still. 10.30 P. M. Rear Washington street.

Fences, owned by B. & A. R. R. Cause, locomotive sparks. Extinguished by Engineers Cumming and Stacy.

Feb. 24. — Station 117. 9.05 A. M. 384 Washington street. Three-story frame dwelling, 30 x 40, owned by Richard Sevier. Occupied by W. B. Whittier. Loss, \$175. Insured. Cause, thawing water-pipes. Apparatus present: Engines 1 and A; Hose 4 and Truck 1. Chief and Assistant Chief.

Feb. 25. — Station 9. 5.40 A. M. Brookline and Dedham streets. Two-story frame dwelling, 28 x 40, owned by Dr. Bigelow. Occupied by T. Dallaches. Loss, \$50. Insured. Cause, defective open grate. Apparatus present: Engines 3 and A; Hose 7. Chief and Assistant Chief.

March 12. — Station 421. 1.27 P. M. Grove street. Grass land. Cause, locomotive sparks. No loss. Apparatus present: Engines 1 and A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

March 12. — Still. 8.30 P. M. Central street. Grass land. Cause, locomotive sparks. No loss. Extinguished by Driver Cooney, No. 5 Hose.

March 12. — Station 36. Fuller and Washington streets. Grass land. Cause, children. No loss. Apparatus present: Engines 1 and A; Hose 2, 4, 5, 6 and Truck 1. Chief.

March 13. — Station 8. 2.33 P. M. Beacon and Hammond streets. Grass land. Cause, careless burning of lawns. No loss. Apparatus present: Engines 3 and A; Hose 7 and Truck 1. Assistant Chief.

March 14. — Station 52. 8.52 A. M. Beacon and Woodward streets. Two one-story frame store-houses, 25 x 30 and

12 x 20, and grass land, owned by Mrs. E. J. Collins. Loss \$225. Cause, sparks from bonfire. Apparatus present: Engines 3 and A; Hose 6, 7 and Truck 1. Chief and Assistant Chief.

March 22. — Station 9. 11.54 A. M. Dedham street. Wood land. No loss. Cause, extension of fire originating in West Roxbury Dist., Boston. Apparatus present: Engines 3 and A; Hose 7. Assistant Chief.

March 23. — Station 31. 12.27 P. M. Valentine road. Grass and fences. Loss \$25. Cause, children and matches. Apparatus present: Engines 1 and A; Hose 2, 4, 5 and Truck 1. Chief and Assistant Chief.

March 23. — Station 23. 1.10 P. M. Walnut and Washington streets. Two-story frame carpenter shop, 20 x 30, owned by Henry F. Ross. Occupied by Higgins & Nickerson. Loss \$35. Insured. Cause, locomotive sparks. Apparatus present: Engines 1 and A; Hose 2, 4 and Truck 1. Chief and Assistant Chief.

March 23. — Telephone. 9.41 P. M. Newtonville avenue. Grass land. Cause, locomotive sparks. Extinguished by detail No. 1 Engine. Capt. Lyons.

March 24. — Telephone. 12.15 P. M. Auburndale avenue. Grass land. Cause, children. No loss. Apparatus present: No. 5 Hose. Capt. Washburn.

March 24. — Telephone. 7.15 P. M. Melrose street. Grass land. Cause, children. No loss. Apparatus present: No 5 Hose. Capt. Washburn.

March 26. — Telephone. 12 A. M. Boylston and Woodward streets. Grass land. No loss. Cause, locomotive sparks. Apparatus present: No. 7 Hose. Capt. Cargill.

March 26. — Station 44. 4.16 P. M. Auburndale avenue. Grass land. No loss. Cause, set by children. Apparatus present: Engine A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

March 27. — Still. 1.55 P. M. Webster street. Grass and fences. Cause, set by children. Apparatus present: Chemical A. Chief.

March 27. — Still. 11 P. M. Chestnut street and R. R. bridge. Grass. Cause, locomotive sparks. Apparatus present: No. 7 Hose. Capt. Cargill.

April 2. — Station 64. 5 A. M. Walnut street and Floral avenue. Three story frame, stores and tenements, 40 x 50, owned by Mrs. Almon Blood. Occupied by Fred. A. Watson, Howard Hiltz, Herbert Hiltz and William Willard. Loss \$370. Insured. Cause, rats and matches. Apparatus present: Engines 3 and A; Hose 4, 7 and Truck 1. Chief and Assistant Chief.

April 10. — Station 12. 12.25 P. M. 256 Park Street. Two-story frame stable, 30 x 40, owned and occupied by Charles W. Loring. Loss \$150. Cause, children playing with matches. Apparatus present: Engines 1 and A; Hose 4 and Truck 1. Assistant Chief.

April 11. — Station 331. 10.31 A. M. Highland and Davis streets. One-story frame, 30 x 40. Gymnasium. Loss \$15. No insurance. Cause, locomotive sparks. Apparatus present: Engines 1 and A; Hose 2, 4, 5 and Truck 1. Chief and Assistant Chief.

April 11. — Telephone. 1.30 P. M. Woodland avenue. Grass land. Cause, children. Apparatus present: Chemical A. Chief.

April 11. — Telephone. 4.30 P. M. Woodward and Lincoln streets. Grass land. Cause, sparks from bonfire. Apparatus present: Hose 3 and 7. Assistant Chief.

April 11. — Telephone. 5.30 P. M. Greenough street. Grass land. Cause, children. Apparatus present: Hose 5. Capt. Washburn.

April 12. — Telephone. 5.30 P. M. Kenrick street. Grass land. Cause, careless burning of lawns. Apparatus present: Hose 1. Capt. Lyons.

April 15. — Station 31. 3.47 P. M. Washington and Waltham streets. Cause, exhibit of department and Fire Alarm, for Committee from Hingham, Mass. Apparatus present: Engine A; Hose 2, 4, 5 and Truck 1. Chief and Assistant Chief.

April 18. — Station 31. 2.24 P. M. Chestnut street. Three-story frame, store and tenement, 28x30, owned by Ang. Barker. Occupied by Charles L. Hathaway and F. Linnell. Loss \$75. Insured. Cause, children and matches. Apparatus present: Engines 1 and A; Hose 2, 4, 5 and Truck 1. Chief and Assistant Chief.

April 20. — Telephone. 12.30 P. M. Walnut and Dedham streets. Woodland. No loss. Cause, children. Apparatus present: Chemical A; detail from Hose 3. Chief and Assistant Chief.

April 24. Telephone. 1.40 P. M. Walnut and Dedham streets. Woodland. Cause, children. Apparatus present: Chemical A. Chief.

April 25. Telephone, 11.30 A. M. Walnut and Dedham streets. Woodland. Cause, children. Apparatus present: detail No. 3 Hose. Captain English.

May 5.—Station 641. 1.03. Second 1.07 p. m. Rogers street. One-story frame, 12 x 20, paint and storehouse, owned by Mrs. E. H. Crane, occupied by Gamewell Fire Alarm Co. Loss \$350. No insurance. Cause, spontaneous combustion oil rags. Apparatus present: Engines 1, 3, A; Hose 2, 4, 6, 7 and Truck 1. Chief and Assistant Chief.

May 5.—Telephone. 7 p. m. Grove street. Woodland. Cause, careless smoker. Apparatus present: Hose 5, 6. Chief.

May 6.—Station 74. 10.56 a. m. Crystal street. Grassland. Cause, careless burning rubbish. Apparatus present: Engines 3, A; Hose 4, 7 and Truck 1. Chief and Assistant Chief.

May 6.—Telephone. 12 m. Fuller street. Grassland. Cause, children. Apparatus present: Chemical A. Chief.

May 6.—Station 72. 12.37 p. m. Crescent avenue. Three-story frame, 30 x 50, dwelling, owned and occupied, by A. O. Swain. Loss \$40. Insured. Cause, careless use matches. Apparatus present: Engines 3, A, Hose 4, 7 and Truck 1. Chief and Assistant Chief.

May 11.—Station 23. 7.05. Second 7.15 p. m. Crafts street. Two-story frame, 40 x 70, planing mill, owned, by A. Fitzpatrick. Occupied by A. Fitzpatrick, McDuff Bros. Loss \$184. Cause, sparks from furnace. Apparatus present: Engines 1, 3 and A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

May 13.—Telephone. 1.15 p. m. Highland and Davis streets. One story frame, 30 x 50, gymnasium. Loss \$25. Cause, locomotive sparks. Apparatus present: Chemical A. Assistant Foreman Humphrey. Chief.

May 15.—Telephone. 7 p. m. Aspen avenue. Grassland. Cause, locomotive sparks. Apparatus present: Hose 5. Capt. Washburn.

May 16.—Telephone. 7.30 p. m. Aspen avenue. Grassland. Cause, locomotive sparks. Apparatus present: Hose 5. Capt. Washburn.

May 18.—Verbal. 12.45 p. m. Nonantum and Washington streets. Out-buildings. No loss. Cause, children and matches. Apparatus present: Hose 1. Capt. Lyons.

May 19.—Telephone. 1.15 p. m. Boylston and Hammond streets. 15 acres woodland. Owned by Jno. A. Lowell and I. F. Kingsbury. Caused by gunners. Apparatus present: Hose 3. Chief and Assistant Chief.

May 25.—Station 641. 3.09 A. M. Rogers street. Three story frame, 30 x 60, machine shop. Owned by Mrs. E. H. Crane and occupied by Gamewell Fire Alarm Co. Loss \$25. Insured. Cause, lightning. Apparatus present: Engines 3, A; Hose 4, 7, and Truck 1. Chief and Assistant Chief.

June 4.—Telephone. 2.08 A. M. Washington and Walnut streets. Three-story frame, 50 x 100, stores, etc., owned by William Claffin. Occupied by N. E. Telephone Exchange and others. No loss. Cause, supposed fire in switch board from contact of Electric Light and Telephone wires. Apparatus present: Chemical A; Hose 4 and Truck 1. Chief.

June 8.—Station 35. 1.57 A. M. Washington and Auburn streets. One-story frame dwelling, 15 x 20, owned by Jere Allen. Occupied by John Brown. (colored.) Loss \$100. Insured. Cause, incendiary. Apparatus present: Engine A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

June 23. — Station 35. 6.32. Second and general combined at 6.36 P. M. Washington and Prospect streets. One-story brick church, 60 x 100, owned by Archbishop Williams. Occupied by St. Bernards Catholic church. Loss \$21,000. Insured. Cause, carelessness with censers. Apparatus present: Engines 1, 3 and A; Hose 2, 4, 5, 6, 7 and Truck 1. Chief and Assistant Chief.

July 13. — Station 71. 3.07 P. M. Homer street and Cemetery avenue. Brush. Cause, children. Apparatus present: Engines 3 and A; Hose 4, 7 and Truck 1. Chief and Assistant Chief.

July 19. — Station 35. Washington street and B. & A. R. R. Two-story frame, 40 x 60, forge and machine shop, owned and occupied by Charles A. Cole. Loss \$1,500. Partially insured. Cause, back draft from furnace. Apparatus present: Engine A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

July 23. — Station 15. 12.51 P. M. Park avenue. Three-story frame dwelling, 30 x 40, owned and occupied by A. F. Adams. Loss \$50. Cause, lightning. Apparatus present: Engines 1, 3 and A; Hose 7 and Truck 1. Chief and Assistant Chief.

July 25. — Station 61. 2.30 P. M. Rockland street. Two-story frame dwelling, 28 x 30, owned and occupied by James Barnard. Loss \$50. Cause, sparks from chimney. Apparatus present: Engines 3 and A; Hose 7 and Truck 1. Chief.

July 29. — Telephone. Washington street and Woodland avenue. Four-story frame, 100 x 150, hotel, owned and occupied by Joseph Lee. No damage. Cause, defective

Electric Light wire. Apparatus present: Chemical A; Hose 2. Chief.

Aug. 7. — No alarm. Fire supposed to have occurred between 3 and 5 A. M. Murray street. One-story frame forge shop, 18 x 20. Owned and occupied by Street Department, City of Newton. Loss \$1000. No insurance. Cause, sparks from forge.

Aug. 22. — Station 23 and Telephone. 8 A. M. Murray and Highland streets. Two-story frame dwelling, 28 x 30, owned by William Claffin. Unoccupied. Loss \$350. Insured. Cause, incendiary. Apparatus present: Engines 1 and A; Hose 2, 4 and Truck 1. Chief and Assistant Chief.

Sept. 5. — Station 871. Brighton Dist. Boston. Engine 1. Chief.

Oct. 6. — Station 42. 2 P. M. Seminary avenue. Two-story frame stable, 28 x 30, owned and occupied by Geo. R. Eager. Loss \$366. Insured. Cause, children and matches. Apparatus present: Engines 1 and A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

Oct. 10. — Telephone. 2 A. M. Watertown. Call for aid. Engine 1. Chief.

Oct. 16. — Telephone, and Station 23. 3 A. M. Murray and Highland streets. Two-story frame dwelling, 28 x 40, owned and occupied by Annie E. Irving. Loss \$2,600. Insured. Cause, overheated stove. Apparatus present: Engines 1 and A; Hose 2, 4 and Truck 1. Chief and Assistant Chief.

Oct. 16. — Station 44. 4.15 P. M. Lexington street. Two-story frame dwelling, 25 x 28, owned and occupied by Patrick Coleman. Loss \$475. Insured. Cause, overheated

smoke-pipe. Apparatus present: Engines 1 and A; Hose 2, 4, 5, 6 and Truck 1. Chief.

Oct. 23. — Station 52. 10.30 A. M. Allen avenue. Two tons of hay. Loss \$40. Cause, incendiary. Apparatus present: Engines 3 and A; Hose 6, 7 and Truck 1. Chief and Assistant Chief.

Oct. 25. — Station 64. 8.50 A. M. Walnut and Duncklee streets. Two and half story frame dwelling, 28 x 40, owned and occupied by Mrs. Anna Ritchie. Loss \$1,700. Insured. Cause, careless use of matches. Apparatus present: Engines 3 and A; Hose 4, 7 and Truck 1. Chief and Assistant Chief.

Oct. 26. — Station 44. 2 P. M. Lexington street and Auburndale avenue. Burning brush. Alarm unnecessary. Apparatus present: Engines 1 and A; Hose 2, 4, 5, 6 and Truck 1. Chief and Assistant Chief.

Oct. 31. — Station 31. 3 A. M. Two-story frame shop, 20 x 40, stoves and etc., owned by W. B. Knapp. Occupied by A. J. Fiske. Loss \$50. Insured. Cause, sparks from soldering furnace. Apparatus present: Engines 1 and A; Hose 2, 4, 5 and Truck 1. Chief and Assistant Chief.

Nov. 8. — Station 871. 8.40 P. M. Brighton Dist. Brighton street. One-story frame stable, 30 x 40, owned and occupied by Dexter D. Bowman. Loss \$2,900. Cause, incendiary. Apparatus present: Engine 1. Chief. Engines 29, 34; Chemical 6 and Truck 11. Chief Battalion Sawyer and Call Engineer Fuller from Brighton District.

Nov. 26. — Station 31. 7.56 A. M. Washington and Chestnut streets. Two-story frame tenements, 40 x 50, owned by Roland F. Gammons. Occupied by Mr. Fenderson

and others. Loss \$25. Insured. Cause, defective flue. Apparatus present: Engines 1 and A; Hose 2, 4, 5 and Truck 1. Chief and Assistant Chief.

Nov. 26. — Station 23. 5.27 P. M. Lowell and Prescott streets. Two and half story frame tenements, 30 x 60, owned by J. O. Teel. Occupied by U. H. Dyer. Loss \$50 Insured. Cause, overheated stove. Apparatus present: Engines 1 and A; Hose 2, 4 and Truck 1. Chief and Assistant Chief.

Nov. 28.—Special calls, 2-2, 9.45 A. M.; 3, 10.20 A. M. for Engines 1 and 2, and details from Companies 4, 5, 6, 7 and Truck 1, in charge of Chief of Department to render aid at Chauncy and Bedford streets, fire in dry goods district, Boston. Returned to quarters at 5.15 P. M.

Nov. 30.—Station 334. 5.14 P. M. Shaw and Winthrop streets. Three-story frame dwelling 30 x 40, owned and occupied by Edward Spaulding. Loss \$65. Insured. Cause, sparks from bonfire falling in ventilator shaft. Apparatus present: Engines 1, A; Hose 2, 4, 5, and Truck 1. Chief and Assistant Chief.

Dec. 5.—Station 64. 12.35 A. M. Unnecessary alarm given by police for fire in Lincoln. Apparatus called out: Engines 3, A; Hose 4, 7, and Truck 1. Chief and Assistant Chief.

Dec. 7.—Station 27. 8.59 A. M. Mt. Vernon and Allston streets. Two and half story frame dwelling 28 x 30, owned and occupied by Edward Dewson. No damage. Cause, overheated furnace. Apparatus present: Engines 1, A; Hose 2, 4, and Truck 1. Chief and Assistant Chief.

Dec. 8.—Station 871. 5.17 P. M. Brighton District, Boston. Apparatus called: Engine 1. Chief.

Dec. 27.—Verbal. 1 P. M. Central street park. Grass land. Cause, locomotive sparks. Apparatus present: Hose 5. Capt. Washburn.

Dec. 27.—Verbal. 8 P. M. Rowe and Auburn streets. Grass land. Cause, locomotive sparks. Apparatus present: Hose 5. Capt. Washburn.

Dec. 28.—Station 843. 3.40 P. M. Brighton District, Boston. Apparatus called: Engine 1. Chief.

•

APPENDIX.

SALARY LIST.

Chief of Department per year	.	.	.	.	\$1,600
------------------------------	---	---	---	---	---------

Ass't Chief " "	.	.	.	.	1,200
-----------------------------	---	---	---	---	-------

Employees.

Engineers of engines per year	.	.	.	.	\$1,000
-------------------------------	---	---	---	---	---------

Drivers [2 horses] per year	.	.	.	.	1,000
-----------------------------	---	---	---	---	-------

Drivers [1 horse] per year	.	.	.	.	650
----------------------------	---	---	---	---	-----

Lineman [telegraph] per year	.	.	.	.	800
------------------------------	---	---	---	---	-----

Call Force.

Foremen of companies per year	.	.	.	.	\$110
-------------------------------	---	---	---	---	-------

Assistants of companies per year	.	.	.	.	105
----------------------------------	---	---	---	---	-----

Firemen, hose and truckmen per year	.	.	.	.	100
-------------------------------------	---	---	---	---	-----

ROSTER OF COMPANIES.

NO. 1 ENGINE.

STATION.—WASHINGTON OPP. NONANTUM STREET.

FIRST SIZE DOUBLE HUNNEMAN ENGINE, ONE HORSE HOSE REEL,
CARRYING 750 FEET.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
14	E. W. Lyons . . .	Foreman at call	Wash. & Centre Sts.	Plumber .	33
6	J. F. Horrigan, 2d .	Assistant “	308 Washington St.	Carriagesmith.	29
7	J. McCammon . . .	Hoseman “	83 Richardson St. .	Merchant .	36
11	W. Pingree	Hoseman “	21 Avon Place . .	Carpenter .	31
8	A. Carley	Hoseman “	236 Washington St.	Painter . .	24
15	P. C. Carroll	Hoseman “	428 Washington St.	Coachman .	37
16	B. F. Tripp	Hoseman “	236 Washington St.	Carpenter .	25
4	I. J. Jefferson . . .	Fireman “	At Station	Carpenter .	32
EMPLOYEES.					
2	F. E. Judkins	Engineer . . .	At Station	Permanent.	42
12	J. Deary	Driver	At Station	Permanent.	31
13	F. A. Dexter	Driver	At Station	Permanent.	31

CHEMICAL A AND HOSE 2.

STATION.—WASHINGTON STREET OPP. LINCOLN PARK.

NO. 4 CHAMPION, DOUBLE TANK, ONE HORSE HOSE REEL, CARRYING 750 FT.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
21	G. H. Haynes . . .	Foreman at call.	Webster Park . .	Builder . .	54
23	F. H. Humphrey . .	Assistant "	Webster St. . . .	Merchant . .	43
24	W. H. Nicholl . . .	Hoseman "	Waltham St. . . .	Carpenter . .	44
22	C. M. Kebbe	Hoseman "	Henshaw St. . . .	Carpenter . .	35
19	Geo. K. Stacy . . .	Hoseman "	At Station	Carpenter . .	27
20	Jos. Cummings . .	Hoseman "	Washington St. . .	Janitor . . .	31
28	Geo. F. Saunders . .	Hoseman "	At Station	Carpenter . .	
EMPLOYEES.					
17	R. S. Cummings . .	Engineer . . .	At Station	Permanent.	39
18	C. L. Berry	Driver	At Station	Permanent.	40
29	J. F. Saunders . . .	Driver	At Station	Permanent.	22

Appointments.

GEO. F. SAUNDERS, Hoseman May 15, 1889.

Honorable Discharge.

J. Q. A. HAWKES April 30, 1889.

JAS. H. SAUNDERS July 1, 1889.

W. J. RILEY July 31, 1889.

NO. 3 ENGINE.

STATION.—WILLOW STREET.

SECOND SIZE, DOUBLE AMOSKEAG, ONE HORSE REEL, CARRYING 750 FEET.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
34	A. I. English	Foreman at call.	Centre St.	Builder . .	41
41	S. F. Chadbourne . .	Assistant "	Willow St.	Carpenter . .	39
42	C. B. Geary	Hoseman "	Lyman St.	Carpenter . .	41
38	D. McDonald	Hoseman "	Station St.	Builder . .	39
44	C. J. Polly	Hoseman "	Lyman St.	W. Wright. .	30
37	W. B. Polly	Hoseman "	Station St.	Clerk	28
46	J. McMahon	Hoseman "	Willow St.	Blacksmith. .	30
36	C. E. Thompson . . .	Fireman "	At Station	Carpenter . .	30
EMPLOYEES.					
32	A. D. Colby	Engineer . . .	At Station	Permanent.	56
43	P. E. Ellis	Driver	At Station	Permanent.	30
46	J. F. Higbee	Driver	At Station	Permanent.	24

Appointments.

JNO. MCMAHON, Hoseman March 15, 1889.

Honorable Discharge.

C. A. PECK, Fireman March 1, 1889.

NO. 1 TRUCK.

STATION.—WASHINGTON OPP. WALKER STREET.

SECOND SIZE TRUCK, 290 FEET LADDERS.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
62	W. S. Higgins . . .	Foreman at call.	Brooks Ave. . .	Builder . .	42
60	F. B. Sisson . . .	Assistant "	Washington St. .	Carpenter .	51
66	J. H. Williams . . .	Truckman "	Washington St. .	Painter . .	53
87	O. Dow	Truckman "	Murray St. . . .	Plumber . .	46
68	T. C. Nickerson . .	Truckman "	Lowell St. . . .	Builder . .	44
65	U. H. Dyer	Truckman "	Lowell St. . . .	Merchant . .	37
64	J. Beals	Truckman "	Washington St. .	Merchant . .	40
69	J. Watts	Truckman "	Washington St. .	Carpenter .	33
70	J. F. Horrigan . . .	Truckman "	Washington St. .	Painter . .	46
61	Chas. Coleman . . .	Truckman "	Allston St. . . .	Carpenter .	43
71	M. McLeod	Truckman "	Edinboro St. . .	Carpenter .	33
63	A. A. Savage	Truckman "	Brooks Ave. . . .	Merchant . .	43
EMPLOYEE.					
59	J. E. Watson . . .	Driver	At Station . . .	Permanent.	34

NO. 4 HOSE.

STATION.—WASHINGTON OPP. WALKER STREET.

ONE HORSE REEL, CARRYING 700 FEET.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
52	E. C. Waterhouse . .	Foreman at call.	Allston St. . . .	Builder . .	35
47	A. J. Wandlass . . .	Assistant "	Allston St. . . .	Carpenter .	44
50	D. Archibald	Hoseman "	At Station . . .	Merchant . .	35
49	J. S. Williams	Hoseman "	Washington St. .	Painter . .	29
EMPLOYEE.					
51	Tyler C. Holmes . .	Driver	At Station . . .	Permanent.	23

Honorable Discharge.

J. W. Cook, Hoseman, ... October 1, 1889.

NO. 5 HOSE.

STATION.—AUBURN, BETWEEN MELROSE AND WOODBINE STS.

ONE HORSE REEL, CARRYING 700 FEET.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
53	J. F. Washburn . .	Foreman at call.	At Station . . .	Painter . .	30
58	J. U. Kimball . . .	Assistant "	At Station . . .	Builder . .	42
54	J. M. Taylor . . .	Hoseman "	Auburn St. . . .	Carpenter .	32
57	J. Frost	Hoseman "	Auburn St. . . .	Shoemaker.	54
53	C. H. Hall	Hoseman "	Auburn St. . . .	Painter . .	40
EMPLOYEE.					
56	D. J. Cooney	Driver	At Station	Permanent.	28

NO. 6 HOSE.

STATION.—WASHINGTON AND HAMILTON STREETS.

ONE HORSE REEL, CARRYING 700 FEET.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
75	Bernard Early . . .	Foreman at call.	Wash'n & Wales St.	Papermaker	33
76	D. J. Corcoran . . .	Assistant "	Hamilton St. . . .	Carder . .	28
79	P. E. O'Neil	Hoseman "	Grove St.	Fireman . .	33
74	T. E. Healey	Hoseman "	Wash'n & Wales St.	Painter . .	29
77	A. B. Hayden	Hoseman "	At Station	Machinist .	23

Promotion.

D. J. COONEY, Hoseman to Driver Reel, ... January 1, 1889.

NO. 7 HOSE.

STATION.—PETTEE STREET.

ONE HORSE REEL, CARRYING 650 FEET.

Badge.	NAME.	RANK.	RESIDENCE.	OCCUPATION.	Age.
82	W. S. Cargill	Foreman at call.	High St.	Carpenter .	42
84	H. A. Smith	Assistant "	Rockland St. . . .	Carpenter .	35
81	J. E. Trowbridge . .	Hoseman "	High St.	Merchant .	53
80	J. T. Thomason . . .	Hoseman "	Chestnut St. . . .	Merchant .	41
83	G. H. Osborn	Hoseman "	Summer & High Sts.	Moulder . .	41
86	J. L. Randall	Hoseman "	Elliott St.	Janitor . .	51

Statement of Duty Performed by Each Company.

APPARATUS.	MILES.	HOSE.	LADDERS.	DURATION OF SERVICE.
Engine One	89	6,350 ft.	..	49 hours, 40 minutes.
Engine Three	59	1,700 "	..	41 " 25 "
Chemical A	176	7,000 "	203 ft.	69 " 15 "
Hose Two	64	5,550 "	..	48 " 25 "
Hose Four	112	5,650 "	..	45 " ..
Hose Five	51	2,700 "	..	31 " 45 minutes.
Hose Six	44	1,300 "	..	20 " 40 "
Hose Seven	65	2,400 "	..	28 " ..
Truck One	117	..	1,228 ft.	45 " 25 minutes.
	777	32,650 ft.	1,431 ft.	379 hours, 35 minutes.

FIRE ALARM DEPARTMENT.

CITY BUILDING, WILLOW STREET.

WALTER B. RANDLETT, Assistant Chief, (in charge).

Instruments in Circuit at Fire Alarm Headquarters.

Four circuit repeater, (old style)	1
Galvanometers	6
Twelve point switch boards	2
Morse keys	2
Electric automatic time test clock	1
Electric stop clock	1
Time gong, (8 inch)	1
Tap bells	4
Extension and call bells	2
Electric light protectors, (Roger's patent)	1

Location and Size of Tower Bells.

BUILDING.	STREET.	WEIGHT.
Armory	Washington, opp. Channing St.	2,240 lbs.
Methodist Church	Walnut and Bowers Sts.	1,200 "
City Hall	Washington and Cherry Sts.	2,650 "
Congregational Church	Hancock St. and Woodland Ave.	3,250 "
No. 6 Hose Station	Washington and Hamilton Sts.	727 "
Methodist Church	Summer St.	1,500 "
Congregational Church	Hartford and Lincoln Sts.	1,500 "
Mason School	Station and Beacon Sts.	2,000 "

Location, Circuits and Size of Gongs.

BUILDING.	CIRCUIT.	SIZE.
No. One Engine Station	No. Four	15 inch.
No. One Engine Station	Boston	8 "
Chemical A and Hose Two Station	No. Three	15 "
Chemical A and Hose Two Station	Special (Boston)	4 "
No. Three Engine	No. Four	15 "
No. One Truck and No. Four Hose Station	No. Three	16 "
No. Five Hose Station	No. Two	16 "
No. Six Hose Station	No. Two	15 "
No. Seven Hose Station	No. One	16 "
Pumping Station	No. One	8 "
Residence of Otis Pettee, Secretary of G. F. A. Co.	No. One	8 "
Gannett Fire Alarm Works	No. One	16 "
Residence of Chief of Department	No. Three	8 "
Residence of Assistant Chief	No. Three	8 "
Fire Alarm Headquarters, (time)	Special (Boston)	8 "

Location of Signal Stations.

12. Park and Church streets, Newton.
13. Sargent and Centre streets, Newton.
14. Washington and Jewett streets, Newton.
15. No. 1 Engine Station, Newton.
16. Church and Centre streets, Newton.
17. Pearl and Thornton streets, Newton.
18. Newtonville avenue and Howard street, Newton.
112. Washington street and Waverly avenue, Newton.
113. Waverly avenue and Vernon street, Newton.
114. Eldridge and Vernon streets, Newton.
115. Centre and Elmwood streets, Newton.
117. Washington and Channing streets, Newton.
171. Boyd and Fayette streets, Newton.
21. No. 1 Truck Station, Newtonville.
23. Washington and Walnut streets, Newtonville,

- 24. Chapel and Watertown streets, Nonantum.
- 25. Lowell and Watertown streets, Newtonville.
- 26. Walnut street, opposite High school, Newtonville.
- 27. Forest and Alpine streets, Newtonville.
- 28. Walnut and California streets, Newtonville.
- 212. Watertown and Parsons streets, Newtonville.
- 224. Nonantum Worsted Mills, (P) Nonantum.
- 225. Silver Lake Co., (P) Newtonville.
- 226. High school, Walnut street. (P) Newtonville.
- 231. Washington park, Newtonville.
- 241. Adams and Middle streets, Nonantum
- 31. Waltham and Washington streets, West Newton.
- 32. River and Pine streets, West Newton.
- 34. Waltham and Derby streets, West Newton.
- 35. Chemical A Station, West Newton.
- 36. Fuller and Washington streets, West Newton.
- 37. Hillside avenue and Otis street, West Newton.
- 312. Police Headquarters, City Hall, West Newton.
- 313. Webster street and Webster place, West Newton.
- 331. Margin street and B. & A. R. R. Station, West Newton.
- 334. Shaw and Winthrop streets, West Newton.
- 336. Woodland Park Hotel, (P) Auburndale.
- 4. No. 5 Hose Station, Auburndale.
- 41. Auburn and Charles streets, Riverside.
- 42. Woodland avenue and Grove street, Auburndale.
- 43. Ash and Islington streets, Auburndale.
- 44. Lexington and Freeman streets, Auburndale.
- 45. Auburn and Greenough streets, Auburndale.
- 47. Woodland and Vista avenues, Auburndale.
- 421. Hancock and Fern streets, Auburndale.
- 442. Lasell Seminary, (P) Auburndale.
- 5. No. 6 Hose Station, Lower Falls.
- 51. Washington and Concord streets, Lower Falls.
- 52. City Farm, Waban.
- 53. Grove street and Pine Grove avenue, Lower Falls.
- 54. Entrance Cottage Hospital, Woodland.
- 512. Paper Mills, C. F. Crehore & Sons, (P) Lower Falls.
- 6. No. 7 Hose Station, Upper Falls.
- 61. Chestnut and Winter streets, Upper Falls.
- 62. Chestnut and Oak streets, Upper Falls.
- 63. Mechanic and Elliott streets, Upper Falls.
- 64. Walnut and Lincoln streets, Highlands.
- 65. Cook and Boylston streets, Highlands.
- 612. Office Pettee Machine Works, (P) Upper Falls.

- 613. Newton Mills, (P) Upper Falls.
- 617. Boylston and Chestnut streets, Upper Falls.
- 641. Gamewell Fire Alarm Works, (P) Highlands.
- 7. Station street and Glen avenue, Newton Centre.
- 71. Walnut street and Cemetery gate.
- 72. Centre and Pelham streets, Newton Centre.
- 73. No. 3 Engine Station, Newton Centre.
- 74. Beacon street and Laurel avenue, Newton Centre.
- 75. Cypress and Paul streets, Newton Centre.
- 76. Centre street and Norwood avenue, Newton Centre.
- 712. Homer and Cedar streets, Newton Centre.
- 8. Beacon and Hammond streets, Newton Centre.
- 81. Ward street and Waverly avenue, Newton Centre.
- 82. Kenrick street and Waverly avenue, Newton.
- 83. Waverly avenue and Kenilworth street, Newton.
- 9. Brookline and Dedham streets, Oak Hill.
- 91. Clark and Parker streets, Oak Hill.

Cautions to Persons holding Signal Station Keys.

Never open or touch the apparatus except in case of fire.

Never sound the alarm for a fire seen at a distance, unless assistance is called for.

Be reasonably sure there is a fire before sounding the alarm.

Be sure your station is locked before leaving it.

Never let the key go out of your possession, except to some responsible person to give an alarm of fire, and be sure the key is returned.

If you remove from your house or place of business, return the key to the Chief of Fire Department, City Hall.

Directions in Case of Fire.

Get the key to the nearest station to the fire; open and pull the hook all the way down once, and let go. If you hear no sound from the bells or tapper, in the station, pull again. If you fail the second time, go to the next nearest station and do the same, but do not touch any other, if the nearest one gives the alarm.

Remain at the station, if possible, after giving an alarm, to direct the firemen to the fire.

No person will give alarms for the same fire (after the first alarm has been given), without an order from the Chief or Assistant Chief.

Citizens are earnestly requested to keep themselves informed as to the location of keys. Signs over each station will give the desired information,

Signals.

1—Blow for test at 11.45 A. M. and 5.45 P. M.; Sundays, 12.15 P. M.

1-1—Two blows will be given when the companies in service at fires have “made up.”

Should an alarm occur from another station before this signal is struck, companies answering Second will immediately answer on First; companies answering Third will answer Second.

School Signals.

3-3-3 Once—Morning session at 7.15 or 8.15. Afternoon session at 12.45.

Tampering with any part of the Fire Alarm System will be prosecuted according to law.

W. B. RANDLETT,
Assistant Chief,
Fire Alarm Headquarters,
No. 3 Engine Station.

H. L. BIXBY,
Chief of Fire Department,
Room A, City Hall.
Office Hours: 2 to 5 P. M.

ORDINANCES RELATING TO FIRE DEPARTMENT.

ORDINANCE XIII.

Fire Department.

SECTION 1. A Fire Department is hereby established. Department
Established.
Charter § 7.

There shall be a Chief of Fire Department, an Assistant Chief, who shall be operator of the fire alarm under the direction of the superintendent telegraph, three steam fire-engine companies, four hose companies, and one truck company.

Each steam fire-engine company shall consist of eleven men ; to wit, a foreman, an assistant foreman (who shall also be clerk), an engineman, a driver, a fireman, and six hosemen. Number men
and officers.

Each hose company shall consist of six men ; to wit, a foreman, an assistant foreman (who shall also be clerk), and four hosemen.

Each truck company shall consist of thirteen men ; to wit, a foreman, an assistant foreman (who shall also be clerk), a driver, and ten truckmen.

SECTION 2. The Chief of Department shall be responsible for the discipline, good order, and proper conduct of the officers and men constituting Chief's
duties.

the department, and for the good condition of all houses, reservoirs, hydrants, wells, engines, hose, hose-carriages, hooks and ladders, trucks, and all apparatus and furniture thereto belonging, and connected with the department. He may suspend any officer or member; and shall forthwith refer his case to the board of aldermen for its action. He shall have the superintendence and, under the direction of the Joint Standing Committee on the Fire Department, the control of the engine and other houses used by the department, of the furniture therein, and of the engines and apparatus, as well as of all other property appertaining to the department.

SECTION 3. The Chief of Department, or, in his absence, the Assistant Chief, shall have sole and absolute control and command of all the other members of the department and of other persons present at fires.¹ The officer in command of the company which first arrives at a fire shall be the

1 PUBLIC STATUTES—SECT. 3. The fire-wards, or any three of them, present at a place in immediate danger from a fire, or, where no fire-wards are appointed, the selectmen, or mayor and aldermen present, or, in their absence, two or more of the civil officers present, or, in their absence, two or more of the chief military officers of the place present, may direct any house or building to be pulled down or demolished, when they judge the same to be necessary in order to prevent the spreading of the fire.

SECT. 4. In cities and towns which, by vote of the City Council, or of the legal votes respectively, have accepted the provisions of this section, or of chapter two hundred and one of the statutes of the year eighteen hundred and seventy-three, the engineer of a Fire Department in command at a fire shall, to the exclusion of all other persons, have the power conferred by the preceding section.

Acceptance. Stat. 1873, chap. 201. Accepted Feb. 12, 1877.

officer in command until the Chief of Department or the Assistant Chief arrives.

SECTION 4. The Chief of Department shall ^{Rolls.} keep rolls of the companies, specifying the name, age, occupation, and residence, and the date of the admission and discharge of each member of the department; and he shall keep an accurate account of all property belonging to it.

He shall at the close of each three months, and ^{Reports of} oftener if required, make to the city council a ^{fires, etc.} detailed report of the condition of the Fire Department, of losses and accidents by fire, with the causes thereof, as well as they can be ascertained, and of the description of the buildings and other property destroyed or injured, the amount of insurance, and the names of the owners.

SECTION 5. The foremen shall preserve order ^{Foremen.} and discipline in their respective companies, and shall promptly report in writing the name of any member guilty of misconduct to the Chief of Department, who shall, if he thinks it proper, report thereon to the mayor and aldermen.

The foremen shall cause to be kept by the ^{Rolls.} respective clerks rolls of the companies, specifying the time of admission and discharge of each member, together with the age, residence, and occupation of each member, and a record of all the city's property intrusted to their care. Their rolls and record-books shall at all times be subject to the inspection of the Chief of Department, and they shall furnish him with copies of abstracts thereof at his request.

Care of apparatus, etc.

SECTION 6. It shall be the duty of the men permanently employed in the department to keep the apparatus committed to their care, and the several buildings in which the same is deposited, and all things intrusted to their care, clean, and in order for immediate use, and to wash and dry the hose of the entire department when required so to do; and they shall clear the snow from the sidewalks and driveways connected with the houses under their charge.

Companies not to leave city, except,

SECT. 7. No company shall leave the city in case of a fire in another city or town, except by order of the Chief or Assistant Chief of Department.

Members not to be transferred, except,

SECT. 8. No member shall be transferred from one company to another, except by order of the Chief of Department.

Badge.

SECT. 9. Every member of the department shall wear at every fire such a badge as the Chief of Department shall prescribe; and no person without such badge shall, except by permission of the officer in command, enter within lines formed at a fire by such officer.

Shavings and other combustible material.
Pub. Stats., chap. 104,
§§ 1-12.

SECT. 10. The Chief of Department shall examine all places where shavings or other combustible materials are deposited or collected; and shall see to the removal of the same, whenever, in his opinion, the same are dangerous; and shall direct the owners, tenants, or occupants of such places to remove the same, which they shall do forthwith; and, in case of refusal or neglect, he shall cause the same to be removed at the expense of such owners, tenants, or occupants.

SECTION. 11. The Chief of Department shall observe all buildings in which steam-engines are used, and all buildings in process of erection or alteration, and make a record of such of them as in his judgment may be dangerous, and report thereon to the mayor and aldermen forthwith. Whenever, in the opinion of the Chief of Department, any camphene or other explosive or inflammable fluid or material should be removed, he shall forthwith notify and direct the owner, tenant, or occupant of the premises upon which the same are situated, to remove the same, which he shall forthwith do. In case such tenant, owner, or occupant shall refuse or neglect as to do, the Chief of Department shall cause the same to be removed at the expense of such owner, tenant, or occupant. No person shall obstruct the Chief of Department in carrying out the provisions of this section.

Inspection of
buildings by
Chief.

Steam
Engines.

Camphene,
etc.

SECT. 12. The Chief of Department shall on the last day of each month, prepare a pay-roll of all persons regularly employed in the department, and present it to the committee on the Fire Department for their action. On the last day of June and of December in each year, the clerk of each company shall make a roll, bearing the full name, age, occupation, and residence of every member of the company, specifying also the number of times the company has been called out, and the attendance of each member, to which shall be appended the following certificate:—

Chief to
prepare
pay-roll.

“We, the undersigned, do hereby certify that, according to the best of our knowledge and belief, the foregoing persons are members of—company, and that said company had consisted

of—members during the last six months; that during that time they have performed all the duties incumbent upon them as firemen, have been present at every turnout of the company, or been duly excused; and that they are entitled to all the privileges and pay of firemen.”

Certificate of
pay-roll.

The certificate shall be signed by the foreman and clerk, and shall be delivered to the Chief of Department.

The Chief of Department shall examine these rolls, and if they are found correct, shall approve them, and present them, with the pay-rolls of the several companies, to the committee on Fire Department for their action.

Fire-alarm
Telegraph.

SECT. 13. The Chief of Department shall have the care and management of the rooms, apparatus and machinery connected with the fire-alarm telegraph, and shall determine to whom shall be intrusted the keys of the signal-boxes. He shall prepare rules and directions for giving alarms of fire through the telegraph.

Keys.

Signal-boxes.

SECT. 14. No unauthorized person shall open any of the signal-boxes, except in case of fire, or interfere with the wires or the poles or other supports of the wires.

False alarms.

SECT. 15. The Chief of Department shall see that every person raising a false alarm of fire is prosecuted.

Gambling.

SECT. 16. No gambling shall be allowed in any building occupied by the Fire Department, nor shall spirituous liquors be kept or used there.

Water from
hydrants, etc.

SECT. 17. No person shall draw water from the reservoir or fire-hydrants, except in case of fire, and except as otherwise provided; ¹ nor shall any

engine, hose, or truck be taken out of the city without permission of the Chief or Assistant Chief. No part of the apparatus shall be taken from the city, unless to a fire, without special permission from the mayor and aldermen.

SECT. 18. No occupant of any building or room in which there is a hatchway or trap-door shall suffer the same to be left open at night.

SECT. 19. Any member of the department ^{Disabled} injured or disabled while on actual duty shall ^{members.} receive pay for the time lost in consequence, not exceeding three months.

SECT. 20. No person shall wantonly or care- ^{Setting fire} lessly set fire to any tree, bush, grass, leaves, brush- ^{wantonly to} wood, rubbish, or other substance in any place in ^{trees, etc.} the city of Newton.

SECT. 21. Whoever shall violate any provision ^{Penalty.} of this ordinance shall forfeit a sum not exceeding twenty dollars.

RULES AND REGULATIONS FOR THE GOVERNMENT OF THE NEWTON FIRE DEPARTMENT.

Chief of Department.

The Chief of Department shall have the sole and absolute command at fires and alarms of fires over all members of the department and of all other persons present at fires, and of all apparatus and appurtenances belonging to the department, and direct all measures he may deem proper for the extinguishment of fires. He shall devote his whole time to the performance of the duties of his office. He shall visit the engine, hose, and truck stations daily, if possible (Sundays excepted), and report to the fire committee or board of aldermen such suggestions or recommendations as he may deem necessary. He may, from time to time, issue such orders for the government of the members as he may deem necessary, subject to the approval of the mayor and aldermen.

He shall have power to suspend any officer or member of the department for insubordination, disorderly conduct, or neglect of duty, said suspension to continue, pending the action of the mayor and aldermen.

Assistant Chief.

In the absence of the Chief of Department the Assistant Chief shall have the same authority, and exercise the same

powers, as the Chief of Department. On arrival at fires he shall report to the officer in command, and when on duty wear his fire-hat.

He shall have, under the direction of the Chief of Department, general supervision and management of all the telegraph apparatus belonging to the department, and every thing pertaining to the same. He shall keep the same at all times in perfect working order, and repair all breaks in the most expeditious manner, reporting to the Chief of Department for all necessary supplies, and such improvements as he may think advisable. When additional help is necessary, he will make application to the Chief of Department; and, when in the immediate vicinity of the department houses, he may obtain the assistance of the regular members, by direction of the Chief of Department. He shall give necessary instructions to persons in the department and to key-holders. He shall devote his whole time to the duties of the position.

Engineers.

The engineers shall have full control of the engine, bunk, and meeting rooms and basements, and shall report to the Chief of Department at once the name of any member of the department, or other person, guilty of any disorderly conduct, or violation of the rules and regulations; also any damage which their apparatus, or any part of it, their houses or furniture, may have sustained. They shall keep an account of all supplies that come to the station, and promptly report when materials are required for use; keep their engines at all times in condition for immediate service. Delays or accidents resulting from neglect will be sufficient cause for suspension or discharge. They shall instruct their stokers in the management of the engines. The use of all patent preparations for cleaning the metal is strictly prohibited. All material for polishing will be furnished from headquarters.

Keep the safety valve set at eighty pounds, and run the engines according to the line of hose; an hundred pounds will be carried only when working through an extra long line, or two lines of, say, five hundred feet each. Water-pressure will never exceed a hundred pounds, except on special order from the Chief or Assistant Chief of Department.

The following whistle-signals will be made use of in this department until further orders:—

One whistle, signals pipemen to look out for water.

Two whistles, signal for burst hose.

Three whistles, signal for coal.

Two short and one long whistle, signal, "Make up."

Engineers will be on duty at all times. No member shall shut off the water, or in any manner move the machinery attached to the engine, except at request of the engineer.

When the services of the engine are not required, draw the fire, always leaving sufficient quantity for rekindling in case of another alarm while returning. All fuel partially consumed shall be preserved, and not be left burning in the streets.

Drivers.

Drivers permanently employed shall be on duty at all times. They shall be held personally responsible for their stables, and for the care and management of their horses. They must not drive them faster than is consistent with the safety of the public and of the apparatus of the department. They will be held responsible for any damage caused by them, or carelessness displayed in conveying their apparatus to and from fires. Racing to or from fires will not be allowed under any circumstances. If the apparatus of two or more companies shall proceed to or from a fire on the same street, they shall do so in single file, except in case of Chemical Engine, which shall have the "right of way" over all. Re-

turning from fires, they shall drive at a moderate rate of speed. On arriving at fires, the horses shall be blanketed, and kept moving, if possible: and upon returning to the house, if wet by perspiration, they must be immediately rubbed dry. These instructions will also apply to drivers of hose-carriages and tenders.

Exercise Hours.

The horses used exclusively by this department will be exercised daily, in accordance with the following order:—

IN BOARD OF ALDERMEN,
April 21, 1884.

ORDERED, That on and after May 1, 1884, the several horses permanently employed in the Fire Department shall be exercised daily (Sundays excepted), and in the following streets, except when otherwise ordered by the Chief of Department:—

No. 1 ENGINE.—Washington to Church, to Eldridge, to Vernon, to Park streets.

No. 2 ENGINE.—Washington to Elm, to Webster, to Waltham, to Chestnut, to Margin streets.

No. 3 ENGINE.—Willow to Beacon, to Crescent avenue, to Pleasant, to Centre, to Willow streets.

No. 1 TRUCK.	} Washington, Parsons, to Central avenue.
No. 4 HOSE.	

Exercise hours to be regulated by Chief of Department, and not to exceed one hour nor less than one-half hour. The rules governing inclement weather and holidays will remain in force. Any employee failing to conform to the above order shall be subject to suspension.

H. L. BIXBY,
Chief of Department.

I. F. KINGSBURY,
Clerk.

when the horses have performed no duty within the twenty-four hours next preceding. The horses will not be exercised on public holidays, and never speed them faster than a slow trot.

“Right of Way when Proceeding to Fires” as Accorded by Law.

[Chap. 37, Acts 1874.]

An Act to Punish the Wilful Obstruction of Fire Engines, etc.

Whoever wilful and maliciously obstructs or retards the passage of any engine, or other apparatus, of any fire department, while going to a fire,

through any street, lane, alley, or other way, shall be punished by imprisonment in the House of Correction not exceeding three months, or by a fine not exceeding fifty dollars. [Approved Feb. 28, 1874.]

All drivers of this department will govern themselves by the above law, and use the utmost discretion at all times to avoid accidents.

Stokers.

The stokers shall respond promptly to all alarms, and when in quarters, they will assist in hitching up. When on duty at fires, they shall be under the direction of their respective engineers, who shall require their whole and undivided attention. On return from fires, they shall remain on duty until relieved by their engineers. They will be required to sleep in their respective stations.

Foremen.

It shall be the duty of the foremen of all companies where permanent men are not employed, to see that the apparatus committed to their care, and the several stations in which the same are deposited, and all things in or belonging to the same, are kept neat and clean, and in order for immediate use; to see that the snow is cleared from the sidewalks and driveways connected with the stations under their charge.

Fines.

Foremen of companies will see that the following fines for non-attendance are rigidly enforced:

For absence from fires and alarms	\$1 00
For absence from regular and special meetings . . .	50

Assistant Foremen.

The assistant foreman, shall, in the absence of the foreman, perform all the duties and exercise the same authority as the foreman.

Members.

The members of the several companies shall, upon an alarm of fire from the section of the city to which they are assigned for duty, proceed promptly to the place of the fire in an orderly manner, report to the foreman, and perform any duty that may be required of them. They shall remain on duty until relieved by orders, which shall be given only by the officer in command. If the company to which they are attached does not respond to the alarm on first call, they shall proceed to their engine, hose or truck station, and remain thirty minutes, unless called into service or relieved by dismissal. No member shall be absent from duty for a longer period than one month, except in case of sickness, or by special permission of the Chief of Department. No person whose occupation requires his daily absence from the city will be eligible to membership in this department. Any officer or member of this department who shall remove from the city shall thereupon cease to be a member; and all members of the department will be required to live within a reasonable distance of their respective stations.

Substitutes.

Each member may have two substitutes to take the place of call-members absent from the city or disabled by sickness. They shall be approved by the Chief of Department, and shall, if for services rendered for a period of fifteen days or more, receive the same compensation as their principal, to be deducted from their principal's pay. Any substitute serving for a less time than fifteen days shall be paid the amount of fines imposed on his principal for non-attendance at fires or alarms. Any member failing to pay his substitute on the following pay-day shall be subject to dismissal. No substitute can be assigned to duty in place of his principal during the time of a fire or an alarm of fire.

Bunkers.

Call-men to whom beds are assigned will be required to retire at or before 11 P. M., unless excused by the engineer or person in charge of the station, and will not be allowed to use or occupy the same during the day, unless deprived of their usual rest by the performance of active fire duty, or in case of sickness sufficient to require the use of the same. No visitors will be allowed in the bunk-rooms after hours, or at any other time while the beds are occupied. It shall be the duty of the engineer or member in charge of the station, to immediately report to the Chief of Department any misconduct or violations of the rules on the part of persons occupying said beds. The occupant of each bed will be held responsible for the cleanliness of the same, and for any damage to either bed or bedding through carelessness. All members occupying sleeping quarters in the engine, hose, and truck stations shall vacate their beds from May 1 to Oct. 1, at 6.30 A. M., and from Oct. 1 to May 1, at 7 A. M.

Horses and Feeding.

The system of feeding shall be as follows, particular care being exercised not to feed or water the horses while too warm:—

Four quarts of oats morning and night; this, with about eight or ten pounds of hay after bedding the horses, will constitute the daily allowance for each horse, and must not be exceeded. But when it shall be ascertained that a less allowance is sufficient, the driver will exercise discretion as to the quantity. The stalls to be cleaned early in the morning; after breakfast the horses groomed and the harnesses cleaned. Horses sick or disabled will be immediately reported to the Chief of Department. No alteration or changes in harness will be permitted, except upon authority of the Chief of Department. When horses are in the shop for shoeing, the

drivers shall remain with them, and shall report to the Chief of Department any unnecessary delay, or any work improperly executed, and will allow but one shoe to be removed at a time.

Badges.

All members of the department shall be provided with a badge, to be known as the Regulation Badge of the department, which shall be worn in a conspicuous place during the time they are on duty; and no member shall lend his badge on any pretext whatever. Any member losing his badge shall immediately notify the Chief of Department, and use all diligence to recover the same. He shall be required to pay for the same before another badge will be provided, the money so paid to be refunded should the badge be found. These badges shall at all times remain the property of the city. Any member loaning his badge to any person not connected with the department shall be subject to dismissal. No person will be recognized as a member of this department unless wearing his badge.

Roll-Call.

Upon returning from a fire, or an alarm of fire; the assistant foreman, or, in his absence, the foreman, shall call the roll, and report to the Chief of Department any member absent, and the excuse for the same; and in no case shall the permanent members act as substitutes for the call members, or answer for them at roll-call.

Leave of Absence.

No permanent member shall leave the city, or be granted leave of absence, without notifying the Chief of Department, and procuring a substitute to his acceptance; and the substitute shall be on duty before the applicant leaves his post; and the pay of the substitute may be deducted from the pay of the principal. Any member of the call-force expecting to be absent

from the city shall notify the foreman of his company, and procure a substitute to his satisfaction. Whenever leave of absence is granted to bunkers, they shall report the same to the person in charge of their station, and shall, in like manner, report their return.

Supplies.

No member of the department will be allowed to make any purchase for the department chargeable to the city, except by order of the chairman of fire committee or Chief of Department

Meals.

For permanent members three hours daily will be allowed for meals, and will be so arranged that there shall be at all times one member on duty.

Duties at Fires.

At all fires, the first officer arriving shall, in the absence of the Chief or Assistant Chief, and until his arrival, act as Chief of Department, and be obeyed and respected accordingly. The men are required to move quickly, and obey orders promptly and without criticism. The officers in charge of the several companies, shall, immediately on their arrival at a fire, report to the officer in command, and remain for orders. No company shall leave the fire-grounds, or take the apparatus of which they have charge therefrom, without the order or permission of the officer in command. Any neglect of duty, disobedience of orders, or disrespect to officers, shall be reported to the Chief of Department. No member shall wilfully or maliciously direct a stream of water upon any fireman or citizen. All disputes which may arise between companies or individual firemen when on duty shall be settled by the engineer in command. Members of companies that are not in service at fires will not enter the buildings unless

ordered, but remain convenient to the fire, equipped, and ready for orders.

Going To or From Fires.

Order and decorum will be preserved when going to or from a fire or an alarm. To guard against collision and accident when proceeding to fires, the gongs will be struck when approaching street-crossings, turning corners, and approaching the fire-grounds.

Riding to Fires.

All drivers will be held responsible for any unnecessary overloading, and will in all cases judge of the ability of the horses, the condition of the streets, and the distance to travel. The men will mount and dismount as ordered by them. Officers will avail themselves of any opportunity to ride to fires (excepting on engines), to the exclusion, if necessary, of the men.

Fire-grounds.

All engines and hose companies responding to second or general alarms will connect, but will not lay their lines until they have reported to the officer in command at the fire for orders.

Stations.

Stations of the department shall be open from 10 A. M., until 10 P. M. for visitors, and at any other time for inspection by members of the city government. On the Sabbath all stations must be closed; and it is made the duty of the engineer, or person in charge, to see that order and quiet are preserved. All work other than absolutely necessary will be omitted for the day. The permanent members of each station shall once in each week scrub the floors of their respective stations, and at all times keep them neat and clean. The members in charge of the several stations shall personally

attend to the receiving of visitors, whether members of the city government, officers of the department, or citizens. Citizens visiting the stations shall be courteously treated, have reasonable questions answered, and any proper information given. All members detailed to sleep in the stations must be in their quarters at the time stated for closing the station, unless otherwise excused, and all other persons must leave at that time.

Drill.

Until further notice the truck company will drill once each month, from May 1 to Oct. 1, and all other companies at such times as may be ordered by the Chief of Department.

Conduct.

All members of the department are strictly required in their intercourse with each other, social, or official, to observe a courteous demeanor; and officers or men, in addressing each other, will do so in a respectful manner. While on duty at fires, the greatest degrees of silence compatible with a proper discharge of duty will be required. No profane or ungentlemanly language, or disorderly conduct, will be allowed on the part of any officer or member of the department when on duty.

No spirituous or malt liquors will be allowed in any station of the department or at any fire. If any member shall enter any station of the department intoxicated, or become intoxicated at a fire, he shall be subject to dismissal. No gambling of any kind will be allowed in any station of the department.

GENERAL RULES.

Rule 1.

No driver of engine, hose, hook-and-ladder truck, or other vehicle, shall drive over any line of hose if it can be avoided.

Rule 2.

No company will be allowed to take its apparatus from their quarters, except in case of fire, without consent of the Chief of Department.

Rule 3.

The hose must be changed on reels once in four weeks, unless otherwise ordered by the Chief of Department, for which purpose the foreman will warn the members of his company detailed for this purpose; and any member absent, unless excused, will be fined the same amount as for absence from fires.

Rule 4.

Any member permanently employed, who refuses or neglects to pay any just debt contracted during his connection with the department, it shall be deemed sufficient cause for suspension or discharge.

Rule 5.

No permanent officer or member of the department shall attend a caucus or political convention as a delegate, distribute

tickets at any election, or take any part whatever in political matters than to exercise a right of suffrage.

Rule 6.

All members of the department will be required to address officers by their respective titles when on duty.

Rule 7.

When any member shall leave the department, he shall thereupon return his badge, key, and copy of rules and regulations, in good condition, to the foreman of his company, who shall immediately notify the Chief of Department; and any member failing so to do shall have the amount deducted from his pay.

Rule 8.

No balls, parties, or social gatherings of any description shall be held in any building in charge of the department, except on permission from the Chief of Department.

Rule 9.

No property belonging to the city will be loaned for any purpose whatever, except upon written order of the Chief of Department.

Rule 10.

No hoseman or truckman at call shall be entitled to pay for less than fifteen days' service. All appointments shall, as far as practicable, be made to date from the first or fifteenth day of each month.

Rule 11.

In the use of hydrants all members of the department are instructed to use great care in the opening and closing of the same, and to see that each cap is properly adjusted before leaving. The first company connecting with a hydrant in case of fire will leave one member in charge of the same;

should a second company or line desire connection, it will not be made until the line is complete to the fire, and orders given for water. Exceptions to this are ordered for engines, which will be given immediate connection (if ordered into service), and the hydrant left in charge of the engineer.

Rule 12.

Officers of companies, hosemen, and laddermen will wear their fire-hats when on duty.

Approved by Board of Mayor and Aldermen, April 19, 1880.

Attest: EDWIN O. CHILDS, *Clerk.*

H. L. BIXBY, *Chief Fire Department.*

BILL OF DRESS FOR UNIFORMED FORCE OF THE FIRE DEPARTMENT OF THE CITY OF NEWTON.

Fire-Cap.

For Chief of Department.—A white leather cap with eight cones, having a white leather stitched front depending from a gilt eagle head, and attached to the front of the cap, with the word “Chief” in black letters stitched on white ground, with “Fire Department” in the centre, and the word “Newton” at the bottom.

For Assistant Chief of Department.—Same as for the Chief of the Department, except that the rim and cape will be black on both sides and lettered “Ass’t Chief, Fire Department, Newton.”

For Officers Engine and Hose Companies.—Same as Chief of Department, except that it will be of black leather, and have a white leather stitched front, with the letters and figures cut out of it on a background of black patent leather.

For Officers Truck Company.—Same as officers engine companies, except that the letters will be on red ground.

For All Members Engine and Hose Companies.—Same as officers, except that the front will be of black patent leather, with letters on background of white patent leather.

For Members Truck Companies.—Same as for officers of

truck companies, except that the fronts will be of red patent leather, with letters on background of white patent leather.

Fatigue Caps.

For Chief of Department.—Of United States Navy pattern, made of dark blue cloth, pure indigo dye, with band one and one-half inches, and quarters one and three-quarter inches high, stiffened with hair-cloth sewed into the seam of top and quarters, the sides to be ventilated, a narrow welt around bottom and top seam of cap, the inner band to be of strong, serviceable leather, the visor to be plain, solid, black patent leather, two inches wide, with rounded corners, the chin straps of black patent leather one-half inch wide, with slides of same material, straps to be fastened to cap on each side with small regulation button.

The insignia of rank to be placed on the quarters in the centre of the front, the lower part resting nearly on the upper edge of band.

For Assistant Chief of Department.—Same as for Chief of Department.

For Engineers Steamers, Drivers, Etc.—Same as for Assistant Chief, but omitting insignia of rank, and substituting therefor a white metal badge, as per pattern at headquarters, to be fastened to the cap, with the lower end resting upon the upper lower edge of band.

For winter service, caps known as "Scotch Havelocks" may be substituted for the "Regulation Cap."

Hats for Summer Wear.

For Chief and Assistant Chief of Department.—Light-gray felt helmets, with black silk band one inch wide, rim bound with the same, with insignia on the front and just above the band, to be ventilated each side, the sweat-band to be of leather one and one-half inches wide and ventilated.

For All Other Members.—Of brown Mackinac braided straw (braids about five-eighths of an inch wide); sides about three and one-half inches high, slightly tapering at crown, with black ribbed-silk ribbon band one and three-quarters of an inch wide, tied in a single bow knot on left side, brim about two and one-quarter inches wide, bound with seven-eighths-inch black ribbon; the sweat-band to be of leather about one and one-half inches wide, the bottom of crown to be lined with paper. The badge as prescribed above to be worn upon the ribbon in front.

Coats.

For Chief of Department.—A double-breasted, close-fitting sack coat, made of dark blue cloth, pure indigo dye, cut to button close to the neck, with rolling collar, and to reach to a point midway between the hip-joint and the bend of the knee; to have eight medium-sized regulation buttons on each breast, grouped in pairs; the cuffs to be made to fit the wrists, and to be closed with three small regulation buttons; a blind pocket on each breast, with plain flaps; two inside breast pockets; the sleeves to be cut so as to be conveniently worn inside the overcoat; the coat to be lined with black Italian cloth, and the sleeves with linen. The prescribed insignia of rank to be placed in the end of collar on each side.

For Assistant Chief of Department.—Same as for the Chief of Department, except that there will be seven buttons placed equidistant, and the insignia of rank as prescribed.

For All Other Members.—The coat will be single-breasted with six medium-sized buttons.

For Summer Wear.—A coat may be worn of dark blue flannel, indigo dye, and in all other respects as above, but without lining.

Overcoats.

For Chief of Department.—A double-breasted frock coat with rolling collar, lap seams, of best heavy, dark blue cloth, pure indigo dye, in length to reach below the knee, to button close up to the neck, with eight large regulation buttons on each breast, grouped in pairs, three on each skirt behind and three of small size on each sleeve at cuff, the skirts to be open behind, blind pockets on each skirt inside, with flaps, also on breasts, and two inside breast pockets.

The skirts to be lined with black Italian cloth, and back with red twilled flannel, sleeves with linen.

For Assistant Chief of Department.—Same as for Chief of Department, except that there shall be seven large regulation buttons on each breast, placed equidistant.

For All Other Members.—Same as for Chief of Department, except that the seams will be plain, with six large regulation buttons on each breast, placed equidistant.

Vest.

For Chief of Department.—A single-breasted vest made of same material as coat, without collar, and to button with eight small regulation buttons, grouped in pairs; inside to be lined with light-colored silesia; back to be made of black twilled silesia.

For Assistant Chief of Department.—Same as for Chief of Department, except that there shall be seven small regulation buttons, placed equidistant.

For All Other Members.—Same as for Chief of Department, except that there shall be six small regulation buttons, placed equidistant.

For Summer Wear.—A vest may be worn made of light cloth or flannel, dark blue, indigo dye, and in all other respects as above described.

Trowsers.

For Chief of Department.—To be made of same material as the coat, with a lap seam; to be cut to fit close around the waist, but loosely around the hams and legs to admit of their free use.

For All Other Officers and Members.—Same as for Chief of Department, except that they will be made with plain seam.

For Summer Wear.—Trowsers may be made of lighter material (dark blue), in the manner prescribed above.

Shirt.

For Chief and Assistant Chief of Department.—White linen or muslin, with rolling or standing collar.

For All Other Members.—To be of white cotton or linen, with rolling collar.

Cravat.

For All Officers and Members.—A small necktie of black silk, to pass once around the neck, and tie with a double bow and flat knot in front, the ends to extend not more than three inches from the knot.

Change of Clothing.

Summer clothing will be worn from June 15th to September 15th, inclusive, unless otherwise ordered from headquarters.

Insignia of Rank.

For Chief of Department.—Embroidered upon dark blue cloth in silver, five trumpets, measuring one and five-sixteenths inches, each crossed with bells outward and projecting beyond mouth pieces, so as to form a design one and one-half inches in diameter.

For Assistant Chief of Department.—Same as for Chief of Department, except that there shall be three trumpets,

measuring one and one-half inches, each crossed with bells downward.

For All Other Members.—A white metal badge of the prescribed pattern.

Coat Badge.

For Chief of Department.—A gilt badge from the department die, as follows: In semi-circle at the top the words, "Chief Fire Department:" in the center, and resting on a ladder, the city seal; beneath, over crossed trumpets, the word "Newton:" below this, the monogram "F. D.;" the whole badge to be two and one-half inches long by one and one-half inches wide, to be fastened with a pin and improved catch.

For Assistant Chief of Department.—Same as for Chief of Department, except to prefix the word "Assistant."

For All Members Engine Companies.—Same as for Chief of Department, except that the badge will be of white metal, with "Newton Fire Department" at the top, below the seal the word "Engine," and beneath this the registered number.

For All Members Truck and Hose Companies.—Same as for engine companies, except that "Truck" and "Hose" will be substituted respectively above the registered number.

Buttons.

For All Officers and Members.—To be of white metal of the following description: For overcoat (except the cuffs) to be round, one inch in diameter, with convex roughened face, having the initials "F. D.," in block letters one-quarter of an inch high, in the centre, the words "City of" at the top, and "Newton" at the bottom, in block letters one-eighth of an inch high, near and parallel to the rim around the button, which rim is to be bright, and about one-sixteenth of an inch wide,

the button to be attached to the coat by means of an eye of white metal wire securely fastened to it.

For the coat (except the cuffs) same as for overcoat, except that it is to be three-quarters of an inch in diameter, with the dimensions of all the parts described proportionately reduced in size.

For vests, cuffs of coat, and fatigue cap, same as for overcoat, except that it is to be five-sixteenths of an inch in diameter, with the dimensions of all parts described proportionately reduced in size.

All officers and members will be held responsible for the safe keeping, proper use, and return of the articles above enumerated, and they are liable to the following penalties for the loss of either of them: For the loss of coat badge, \$3.50. For the loss of cap badge, \$1.00. For the loss of fire hat, \$4.50. For the loss of buttons, \$0.05 each. No part of the uniform prescribed in this order is to be loaned to any person, whether in or out of the department, or used for any but legitimate purposes of the same. This order is imperative.

All members shall wear the uniform prescribed in the above order when on duty, except while cleaning apparatus, quarters, etc., when old clothing may be worn. The purpose of this regulation is, that the officers and members of the department may at all times, except when in the performance of necessary labor in quarters, appear in proper dress. No officer or member in uniform shall smoke in the streets, or public places, or upon the apparatus floor, where smoking rooms are provided. Officers and men, when upon leave of absence, must wear the uniform entire, or no part of it. Whenever the uniform is worn, it must be in an unsoiled condition, coat buttoned to the neck, buttons, badges and boots properly polished, and their persons at all times neatly and tidily dressed. While actually wearing the overcoat, the

under coat may be dispensed with, and a cardigan jacket substituted, but the overcoat must be buttoned at all times when on the street or on duty, and no part of the uniform will be laid aside until bedtime.

The Assistant Chief of Department shall inspect all uniforms or parts of uniforms before they are worn, and reject all found not in conformity to the provisions of this order.

To take effect on or before September 1, 1887.

In the Board of Mayor and Aldermen, April 4, 1887.

Adopted.

HENRY L. BIXBY,

Chief Fire Department.

I. F. KINGSBURY, *Clerk.*

FIRE DEPARTMENT ORDINANCES.

ORDINANCE XXIV.

Buildings.

SECTION 1. No person shall erect, alter, rebuild, or essentially change any building or any part thereof, for any purpose other than a dwelling-house, without first obtaining in writing a permit from the board ^{Permit.} of aldermen. The application for such permit shall specify the location and size of said building, the material of which it is to be constructed, and the use for which it is intended.

SECT. 2. No person shall use any building, or part thereof, for any purpose rendering said building or buildings adjacent thereto, hazardous, unsafe, or liable to be destroyed by fire, or dangerous to persons or property, without first obtaining a permit, as named in Section 1.

SECT. 3. All chimneys hereafter erected shall ^{Chimneys and brick flues.} be built of brick, stone, or other fire-proof, non-conducting material. All brick flues shall be smoothly plastered inside with mortar from top to bottom, and outside below the roofing. In no case shall chimneys rest upon any flooring without a footing of masonry or iron, supported by iron beams, having a secure bearing on iron at either end.

Hearths of fireplaces or grates shall be laid upon brick or other trimmer arches, or upon bars of iron supporting a bed of brick-work.

No wood-work of any kind shall be placed at a less distance than one inch from the outside brick-work of any flue, and in no case shall a nail be driven into the masonry of any flue.

No wood-work shall be placed at a less distance than one inch from any tin or other metal flue or flues, pipe or pipes, used or intended to be used to convey heated air or steam in any building, unless such flues or pipes be cased with metal, leaving a free circulation of air all around the same.

Smoke-pipe.

No smoke-pipe shall pass through any stud or wooden partitions, whether plastered or not, without being guarded either by a double collar of metal, with at least four inches air-space and holes for ventilation, or by a soapstone ring not less than three inches in thickness and extending through the partition.

SECT. 4. Whoever violates any provision of the preceding sections of this ordinance shall be liable to a fine not exceeding one hundred dollars.

ORDINANCE XXII.

Gunpowder and other Explosive Compounds.

Pub. Stats.,
chap. 103, § 56.

SECTION 1. No person shall keep or deposit any gunpowder within the city unless it is well secured in tight casks or canisters.

No person to
keep or deposit
gunpowder
unless, etc.

No person shall keep or deposit more than fifty pounds of gunpowder in any shop, store, or other building which is within the distance of twenty-five rods from any other building or wharf: no person

shall keep or deposit more than twenty-five pounds Limit of amount.
of gunpowder in any shop, store, or other building
which is within the distance of ten rods from any
other building; and no person shall keep or deposit
more than one pound of gunpowder in any shop,
store, or other building, which is within ten rods of
any other building unless it is well secured in
copper, tin, or brass canisters holding not exceeding
five pounds each, and closely covered with copper,
brass, or tin covers.

SECT. 2. Licenses may be granted by the mayor Licenses.
and aldermen for the retailing of gunpowder, in
form substantially as follows: to wit,—

Gunpowder License No.

LICENSE TO SELL GUNPOWDER IN THE CITY OF
NEWTON.

This certifies that _____ of Newton is (or are)
hereby licensed and authorized to sell gunpowder at retail,
at _____ on _____ street, being _____ place of business in
said city, for one year from date hereof, at noon, provided
_____ shall duly conform to the laws and to the provisions
of the ordinance printed hereon. And in case the said
_____ shall at any time during the term aforesaid infringe the laws
or any of the provisions of said ordinance, then this license
shall be void.

Dated at Newton this _____ day of _____, in the year of
our Lord one thousand eight hundred and _____

No person shall sell any gunpowder within the Sales without license prohibited.
city without such license. Every such license shall
be in force one year from the date thereof, provided
that any such license may be rescinded by the mayor License may be rescinded.
and aldermen, at their discretion.

SECT. 3. Every person so licensed shall keep a Sign.
sign over the outside of the principal entrance from

the street of the building in which powder is kept, on which shall be printed in capitals the words, "Licensed to Keep and Sell Gunpowder."

City Clerk to
keep record of
licenses, etc.
Place not to
be changed.

SECT. 4. The city clerk shall keep a record of all such licenses, and of the places designated therein; which places shall not be changed unless by consent of the mayor and aldermen in writing. Every person who receives a license shall sign his name to a copy of the rules prescribed in this ordinance, as evidence of his assent thereto.

Exceptions.

Keeping in
magazines.

SECT. 5. The provisions of this ordinance shall not apply or extend to the keeping or storing of metallic cartridges in fire-proof magazines, nor to cartridge manufacturers, so long as they shall keep their powder in canisters, as prescribed in Section 4, and in fire-proof magazines, located and built to the satisfaction of the mayor and aldermen, and so long as such manufacturers allow no more than one hundred pounds of gunpowder in any magazine, or five pounds of gunpowder not made into cartridges, to be in any one workshop at any one time.

Pub. Stats.,
chap. 102,
§ § 59, etc

SECT. 6. No person, except on military duty in the public service of the United States or of this Commonwealth, shall keep, have, or possess, in any building, place, vehicle, ship, or other vessel within one rod of a dwelling-house, any explosive compound other than gunpowder, in quantity exceeding one-fifth of a pound.

SECT. 7. The mayor and aldermen may license any suitable person to keep, store, and sell such compound, in accordance with the foregoing provisions.

SECT. 8. Any member of the police or of the Fire Department may enter the building or premises of any person so licensed, to make the examination provided by law, at his discretion; and on alarm of fire may cause such compound there deposited to be removed or destroyed, as the case may require.

SECT. 9. Whoever violates any provision of this ordinance shall be liable to a fine not exceeding twenty dollars.

ORDINANCE XXVIII.

Telegraph, Telephone, and Electric-Light Lines.

SECTION 1. The Chief of the Fire Department, under the direction of the mayor and aldermen, shall have the supervision and charge of all telegraph, telephone, and electric lines. He shall forwith report to the mayor any violations of this ordinance.

SECT. 2. No telegraph, telephone, nor electric line shall be erected nor maintained until the owner thereof shall file with the mayor and aldermen a written agreement accepting and promising to abide by and perform all the conditions and provisions of this ordinance, and all orders, rules, regulations, and amendments hereafter made in addition thereto.

SECT. 3. All writings and authority for the erection of telegraph, telephone, and electric lines shall be subject to the right of the mayor and aldermen to permit other lines to be placed upon the same posts; but this shall not prevent a reasonable compensation therefor.

SECT. 4. On streets where curbstones are set, all posts shall be erected in the sidewalk, within and adjoining the curbstones; and where there are no curbstones, the posts shall be so erected as not to interfere with the gutters. No post shall be erected within fifteen feet of any hydrant, nor so as to interfere with any water-pipe, shade-tree, driveway, or intersection of streets.

SECT. 5. All posts for telegraph, telephone, and electric lines shall be straight, properly trimmed and painted, shall not be less than twenty feet in height from the ground, shall be of iron, cedar, or chestnut, and, if of wood, not less than six inches in diameter at the smaller end, and ten inches in diameter at the ground. Such posts shall be properly set in the ground to the depth of at least five feet. Wherever any wire shall cross any street or way, it shall be at a height not less than twenty-five feet above such street or way, and be protected by guards, and, where practicable, cross at right angles.

SECT. 6. All wires for the transmission of electricity for lighting and motive-power shall at all times be so insulated as to resist abrasion and heat, and be impervious to water. When placed above the surface of the ground, such wires shall be suspended upon posts; and, wherever in proximity to other wires, dead guard-wires must be placed so as to prevent any possibility of contact with foreign wires. This rule must apply to both arc and incandescent wires. When any such wire shall be broken, or its insulation become imperfect, the

electric current shall forthwith be discontinued, and the wire not used until properly repaired and insulated.

SECT. 7. Wires for the transmission of electricity for lighting and motive-power shall be secured to insulating fastenings of glass, hard rubber, or other approved insulating material. All tie-wires shall be insulating in the same manner as conducting wires. All joints in wires shall be securely made, and where possible soldered, and wrapped with insulating material that will resist heat and abrasion, and be impervious to water. Continuous wires, without joints, shall be used as far as possible.

SECT. 8. Wires for the transmission of electricity for lighting and motive-power, passing through the exterior walls of buildings, shall be firmly incased in substantial tubes of non-conducting material not liable to absorb moisture, and so placed as to prevent water from entering the building along the wire. Outgoing and returning wires for arc-lights shall enter and leave buildings at points one foot at least from each other; those for incandescent lights shall so enter and leave buildings at points at least three inches from each other. In running along outside walls, cornices, and the like, all such wires shall be rigidly fastened by non-conducting fastenings; and where carried over or attached to buildings, must be at least seven feet above the highest point of flat roofs, and one and a half feet above pitch roofs, and placed so as to avoid ladders of Fire Departments. They should not be run over or attached to buildings; other than

those desiring light and power. In the interior of buildings, all such wires shall be so placed as not to come in contact with iron pipes, posts, nor girders, nor in any way so as to form other circuits or ground connections. In passing through floors or partitions or walls, they shall be surrounded by an insulating tube of substantial material, to protect them from injury by rats and mice. All inside wires must be so placed, as to be easily and thoroughly inspected. Whenever such wires enter a building, a cut-out of simple form and construction shall be provided, and properly attached as near as possible to such entrance.

SECT. 9. The frame and exposed parts of all arc-lamps shall be insulated from the circuit. All such lamps shall be provided with a separate hand-switch, and also with an automatic switch which will close the circuit whenever the carbons do not approach each other, or the resistance becomes excessive. Arc-lamps must be provided with some arrangement to prevent the lower carbon from falling out, in case the lamp does not hold them securely. For inside use, the globes must rest in a tight stand, that no particles of melted copper or heated carbon can escape. Converters on alternating circuits must be outside of buildings, and must be placed high enough from roof to prevent possible injury to firemen.

SECT. 10. For incandescence lamps, the conducting wire leading to each building and branch circuit shall be provided with an automatic switch or cut-out, or its equivalent, capable of protecting

the system from injury by an excessive current of electricity.

SECT. 11. All light and power circuits shall be entirely of metal. No gas, water, nor steam pipe, nor the earth, shall be used as a part of any such circuit.

SECT. 12. In case of fire, the Chief of the Fire Department shall have full power and authority to order and cause any electric wires to be cut or removed, and electric currents discontinued until the fire is extinguished.

SECT. 13. Except by vote of two-thirds of all members of the board of aldermen, no wire for the transmission of electricity for lighting or motive-power shall be attached to posts of the fire-alarm telegraph nor to the posts of any telegraph or telephone company upon which fire-alarm wires are placed. Such wires, excepting when permitted by a like vote to remain, shall forthwith be removed from such posts, whenever any wire of the fire-alarm telegraph is attached thereto.

SECT. 14. All dead wires where crossing public streets or ways shall be removed.

SECT. 15. Upon the completion of any circuit, and before it is used, a plat, showing the location of the wires and posts of such circuit, shall be filed with the Chief of the Fire Department; and any change of such posts or wires shall be reported to him within twenty-four hours.

STATISTICS.

From January 1, 1889, to December 31, 1889.

Total alarms, (Bell)	.	.	.	.	.	.	.	56
Total alarms, (Telephone)	.	.	.	.	.	.	.	21
Total alarms, (Verbal)	.	.	.	.	.	.	.	9
Grand Total	.	.	.	.	.	.	.	86
Loss on Real Estate	.	.	.	.	.		\$29,403	75
Insurance paid on same	.	.	.	.	.		27,313	48
Loss on Personal Property	.	.	.	.	.		8,651	67
Insurance paid on same	.	.	.	.	.		6,022	42
Loss in excess Insurance paid	.	.	.	.	.		4,719	52
Total Insurance at risk	.	.	.	.	.		202,000	00
Assessed value Real Estate at risk	.	.	.	.	.		250,000	00
Total Hydrants	.	.	.	.	.	.	.	606
Total miles of streets	.	.	.	.	.	.	.	145
Area protected by Department	.	.	.	.	.		sq. miles	20

CITY OF NEWTON.

ANNUAL REPORT OF THE TRUSTEES

OF THE

NEWTON FREE LIBRARY,

NEWTON, MASS.

FOR THE YEAR ENDING DECEMBER 31, 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS,
1890.

BOARD OF TRUSTEES, 1890.

At Large.

JOHN S. FARLOW.
JULIUS L. CLARKE.

WILLIAM CLAFLIN.
A. LAWRENCE EDMANDS.

EDWIN B. HASKELL.

From the Board of Aldermen.

EPHRAIM S. HAMBLIN.

From the Common Council.

EDWARD L. COLLINS.

ORGANIZATION FOR THE YEAR 1890.

President.

JOHN S. FARLOW.

Secretary.

JULIUS L. CLARKE.

Committee on Library.

PRESIDENT, *ex-officio*.

WILLIAM CLAFLIN.

EDWIN B. HASKELL.

JULIUS L. CLARKE.

Committee on Building.

PRESIDENT, *ex-officio*.

A. LAWRENCE EDMANDS.

EPHRAIM S. HAMBLIN.

EDWARD L. COLLINS.

Superintendent.

JOHN C. KENNEDY.

Librarian.

ELIZABETH P. THURSTON.

Assistant Librarians.

H. W. HARLOWE,

ETTA P. CLEAVELAND.

LOUISE J. SMALLWOOD.

CHARLOTTE FLANDERS.

KATHERINE K. WOOD.

Janitor.

HENRY J. MARSHMAN.

REPORT OF THE TRUSTEES OF THE NEWTON FREE LIBRARY.

For the Year ending December 31st, 1889.

*To his Honor the Mayor and the City Council of Newton,
Massachusetts :*

It affords the Trustees of the Newton Free Library great pleasure at this time, to again report the continuous and increasing good accomplished by the institution under their immediate charge. Every thing pertaining to the Library has worked harmoniously and well the past year, with good results in every department. Full details of the receipts, expenditures, accessions, circulation, etc., appear in the report of the Superintendent, and the statistical tables of the Librarian herewith submitted. These show a decrease in the circulation of works of fiction during the past year, and an increase in works on arts and sciences, history, geography, poetry, travels, essays and periodicals. This improvement our Librarian attributes in a large measure, to the facilities now afforded each of the teachers in our public schools, for taking from the Library ten volumes at a time for use in the schools.

This privilege was availed of the past year to the extent of 4496 volumes.

The distributing agencies for the five more distant wards of the city have worked satisfactorily, having distributed during

the year more than one half of the entire circulation of the library.

The magazine and newspaper departments in "Chaffin" and "Jewett" halls, are liberally supplied with the current periodicals and newspapers of the day, and it is gratifying to witness the increasing number of readers in both departments. The shelving in our "public document" room (Read Hall) is now completely filled, and we shall be compelled this current year to call on the Public Property Committee of the City Council to furnish additional shelving therein. In addition to the books provided for general circulation from the appropriation made by the City Council the past year, there has been expended for books and works of art from the income derived from the

"Jewett Art Fund"	\$178 00
"Alden Speare Fund"	36 21
"Charles Read Fund"	275 52
"Farlow Reference Fund"	221 70
a total of	\$711 43

The Trustees cordially renew their invitation to the Mayor and City Council and the citizens generally to visit the Library as often as possible and witness for themselves its practical operation.

Respectfully submitted by the Board of Trustees,

J. S. FARLOW, *President*.

SUPERINTENDENT'S REPORT.

To the Board of Trustees of the Newton Free Library :—

GENTLEMEN :— I have the honor to submit to you a statement of the present condition of the Library and a report of its progress through the year ending December 31, 1889.

The tabulated statistics at the close of this report present in detail the work and expenses of the Library for the year and afford an opportunity for comparison with the two previous years.

During the year the circulation of books has increased, reaching a total of 105,230 which is 530 in excess of any former year.

The Library has been much more largely used than heretofore by persons seeking to examine its books of reference and art and spending hours in reading and studying, and this has increased to such an extent that we have found it desirable to keep the Reference Room open an hour later in the evening.

The number of volumes circulated during the year was 105,230.

The number of volumes added during the year was 2,256.

The whole number of books now in the Library is 30,622.

The amount of appropriation made by the City Council for the year was \$10,295.

The work of the Library is itself constantly increasing.

The largest number of books delivered at the Library on any one day was 680, on Feb. 23.

The number of books covered was 12,508.

The registered number of names of persons using the Library is 8,773.

The amount collected from fines during the year was \$383.66 and \$27.66 has been received from the sale of Bulletins and old paper.

Some changes have been made in the Library force during the year. The long felt want of an assistant librarian to look after the Reading Room and care for the magazines and other property has been supplied in the person of Miss Katherine K. Wood, a lady of wide experience in Library work. Her desk is in Chaffin Hall, where she commands a view of the Reading Room, and thus is enabled to suppress the conversational tendencies of the rising generation.

Mr. Chester A. Bass, our efficient janitor, finding a change of climate necessary owing to the illness of his wife, resigned his position. He has been succeeded by Mr. Henry J. Marshman, who thus far appears to be a conscientious, pains-taking man.

The delivery system of the Library has been much improved during the current year. The books have been distributed every secular day with the exception of legal holidays at the nine different agencies scattered throughout the city. The books are collected in the morning, brought to the Library, and the new ones returned early in the afternoon. In addition to this the messenger delivers and collects books from eighteen of the public schools in the city. The prompt and accurate delivery of the books, together with the polite and obliging conduct of the messenger, have been the subject of commendation from citizens of the different parts of our city.

The Newton Jersey Stock Club has again placed us under

a special obligation by the gift to the Library of a beautiful life sized portrait of our honored President. No more fitting or acceptable gift could have been presented to the Library than such a memorial of this liberal, public spirited citizen who has so often honored himself by his liberality towards it. The portrait adorns the wall of the Farlow Reference Room.

Respectfully submitted,

JOHN C. KENNEDY,

Superintendent.

APPENDIX.

A.

RECEIPTS.	1889.	1888.	1887.
December 31.			
Municipal appropriation . . .	\$10,295 00	\$10,170 00	\$8,500 00
Fines, bulletins, etc.	418 38	446 39	277 79
Cash on hand at last report . .	5 64	56	1 22
	\$10,719 02	\$10,616 95	\$8,779 01

B.

EXPENDITURES.	1889.	1888.	1887.
December 31.			
Salaries	\$4,042 15	\$3,518 16	\$3,636 42
Reading room	504 60	463 60	456 85
Incidentals	169 76	168 85	241 10
Repairs	11 80	428 28	160 36
Furniture and fixtures	63 29	233 95	845 66
Printing bulletins	—	188 40	—
Printing and advertising . . .	36 75	123 35	87 35
Binding	380 05	242 55	141 42
Books	3,061 49	2,455 49	972 58
Light	569 40	539 80	543 60
Fuel	288 40	553 50	305 79
Distributing agencies & express.	1,425 21	1,292 95	1,193 95
Blanks and stationery	102 72	392 43	172 60
Postage account	21 50	10 00	20 77
Total expenditure	10,677 12	10,611 31	8,778 45
Bal. with City Treasurer, \$0.11			
Bal. at the Library . . . <u>41.79</u>			
Total balance	41 90	5 64	56
	\$10,719 02	\$10,616 95	\$8,779 01

C.

CIRCULATION.	1889.	1888.	1887.
Number of days the Library was open	304	305	230
of holidays the Library was closed	9	8	8
of other week-days the Library was closed .	—	—	75
of volumes delivered for home use	105,230	104,700	70,005
Average daily use	346.1	343.2	304.3
Largest daily use, Feb. 23, 1889,	680	—	—
March 17, 1888	—	641	—
November 26, 1887,	—	—	526
Smallest daily use, July 25, 1889,	187	—	—
November 26, 1888,	—	90	—
July 1, 1887	—	—	128
Number of books lost and not paid for	15	12	10
of books lost and paid for	2	4	5
of books worn out and withdrawn	50	39	24
of notices to delinquents	177	262	649
of volumes covered	12,508	13,460	13,954
of volumes bound	884	601	318
of names registered during the year . . .	1,026	1,025	1,485
Total number of names registered	8,773	7,747	6,722

D.

DISTRIBUTION THROUGH THE AGENCIES AND TO THE SCHOOLS.		1889.
Books distributed at	Newton Centre	13,676
	Newtonville	11,902
	Newton Highlands	8,324
	Auburndale	6,578
	West Newton	5,259
	Newton Upper Falls	2,908
	Newton Lower Falls	2,440
	Oak Hill	933
	Nonantum	763
Total agency distribution		52,780
Books delivered to 18 of the 20 Public Schools.		
	to Eliot	546
	Bigelow	482
	Prospect	423
	Underwood	421
	High	383
	Adams	374
	Mason	291
	Clafin	279
	Williams	272
	Hyde	191
	Lincoln	190
	Pierce	174
	Oak Hill	120
	Barnard	100
	Rice	100
	Franklin	90
	Davis	30
	Jackson	30
Total number of books delivered for school use		4,496

E.

ACCESSIONS.	1889.	1888.	1887.
Increase by purchase	2,050	1,804	971
by gift	128	103	300
by binding pamphlets	8	7	4
by binding periodicals	136	96	91
Number of missing volumes restored since last report	1	—	—
Total accessions for the year . .	2,323	2,010	1,366
Number of volumes missing or withdrawn since last report	67	55	39
Actual increase	2,256	1,955	1,327
Number of volumes in the Library, as last reported	28,366	26,411	25,084
Total number of volumes in the Library .	30,622	28,366	26,411
Number of pamphlets bound since last report	32	74	20
Number of newspapers subscribed for .	34	36	31
of newspapers given	9	7	15
of magazines subscribed for	79	71	60
of magazines given	11	9	16
Total number received	133	123	122

F.

CLASSIFICATION, GROWTH, SIZE, AND USE.	Increase during the Year.	Total Num- ber of Volumes.	Volumes is- sued during the Year.	Per Cent of Circulation.		
				1889.	1888.	1887.
<i>Literature.</i>						
Prose, fiction and juvenile reading	356	6,467	67,457	64.11	66.34	64.62
Essays, poetry and drama . .	240	3,723	7,139	6.79	6.43	6.78
Periodicals	268	2,190	3,212	3.05	2.41	2.08
Foreign literature	96	683	613	.58	.46	.33
<i>History.</i>						
Geography and travels . . .	241	2,778	8,629	8.20	7.49	8.31
Biography	224	2,899	4,628	4.40	4.47	4.43
History	168	2,801	5,065	4.81	4.70	4.83
<i>Arts and Sciences.</i>						
Natural science and industri- al arts	259	3,023	6,343	6.03	5.77	6.69
Political and social science . .	128	1,581	1,329	1.26	1.09	1.15
Theology	42	1,254	768	.73	.68	.69
Reference Library	234	3,223	47	.04	.16	.09
Accessions for the year . . .	2,256	—	—	—	—	—
Number of volumes in the Library	—	30,622	—	—	—	—
Circulation for the year . . .	—	—	105,230	—	—	—

G.

Received for catalogues sold in 1889	\$13 00
Paid City Treasurer	13 00

LIST OF PERIODICALS FOR 1890 IN THE READING ROOMS.

MAGAZINES.

All the Year Round.	Edinburgh Review.
American Agriculturist.	Education.
American Architect.	Engineering and Building Record.
American Garden.	English Illustrated Magazine.
American Naturalist.	Folio.
American Notes and Queries.	Fortnightly.
American Philatelist.	Forum.
Andover Review.	Garden and Forest.
Appalachia.	Gardener's Chronicle.
Art Amateur.	Good Housekeeping.
Art Interchange.	Harper's Magazine.
Atlantic Monthly.	Haus und Herd.
Bibliotheca Sacra.	Home-Maker.
Blackwood's Magazine.	Illustrated London News.
Camp News.*	Journal of Franklin Institute.
Cassell's Family Magazine.	Lend a Hand.
Catholic World.	Library Journal.
Century.	Life.
Chambers' Journal.	Lippincott's Magazine.
Chautauquan.	Literary News.
Civil Service Record.*	Literary World.
Common School Education.	Littell.
Contemporary.	London Punch.
Converted Catholic.*	Magazine of American History.
Cosmopolitan.	Magazine of Art.
Country Gentleman.	Magazine of Western History.
Critic.	Medical Bulletin.*
Decorator and Furnisher.	Nation.

Nationalist.*	Public Opinion.
Nature.	Publisher's Weekly.
New Eng. Hist. and Gen. Reg.	Puck.
New Eng. Jour. of Education.	Quarterly Journal of Economics.
New England Magazine.	Quarterly Review.
Nineteenth Century.	St. Nicholas.
North American Review.	Sanitarian.
Notes and Queries.	Science.
Official Gazette, U. S. Pat. Office.*	Scientific American.
Open Court.*	Scientific American Supplement.
Our Dumb Animals.*	Scribner's Magazine.
Outing.	Stamp World.*
Overland.	United Service Magazine.
People's Cause.*	Westminster Review.
Philanthropist.*	Wide Awake.
Political Science Quarterly.	Writer.
Popular Science Monthly.	Youth's Companion.

NEWSPAPERS.

Alta California.	Harper's Weekly.
American Citizen.†	Independent.
Atlanta Constitution.	London Times.
Baltimore American.	Montreal Gazette.
Boston Advertiser.	New Orleans Picayune.
Boston Commercial Bulletin.	New York Evening Post.
Boston Globe.	New York Herald.
Boston Herald.	New York Sun.
Boston Journal.	New York Times.
Boston Post.	New York Tribune.
Boston Transcript.	New York World.
Boston Traveller.†	Newton Graphic.
British American Citizen.†	Newton Journal.
Brooklyn Eagle.	Paradise of the Pacific.†
Charleston News and Courier.	Philadelphia Press.
Chicago Tribune.	St. Louis Globe Democrat.
Christian Leader.†	Saturday Evening Gazette.
Christian Register.†	Springfield Republican.
Cincinnati Commercial.	Washington Evening Star.
Denver Times.†	Woman's Journal.†
Florida Times Union.	Zion's Herald.†
Harper's Bazar.	

* Represents magazines given.

† Represents newspapers given.

CITY OF NEWTON.

ANNUAL REPORT

OF THE

OVERSEERS OF THE POOR.

FOR THE YEAR ENDING DECEMBER 31, 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS,
1890.

At the regular meeting of the Board of Overseers of the Poor, held this day, the Annual Report as prepared by the Clerk, for 1889, was accepted by the Board, and the Clerk was instructed to present the same to the City Council.

NATHAN MOSMAN, *Clerk*.

WEST NEWTON, Feb. 6, 1890.

BOARD OF OVERSEERS OF THE POOR, 1889.

HIS HONOR HEMAN M. BURR, *Chairman ex-officio.*

Ward One.

R. ORLANDO EVANS.

Ward Two.

JOHN F. PAYNE.

Ward Three.

ANDREW J. FISKE.

Ward Four.

NATHAN MOSMAN.

Ward Five.

EUGENE FANNING.

Ward Six.

GEORGE WARREN.

Ward Seven,

JOHN WARNER.

HENRY C. DANIELS.

Committee on Almshouse.

JOHN WARNER.

EUGENE FANNING.

NATHAN MOSMAN.

GEORGE WARREN.

City Almoner, and Clerk of the Board.

NATHAN MOSMAN.

Warden of Almshouse.

NATHANIEL D. MOODY.

Matron of Almshouse.

MRS. ELIZA A. MOODY.

City Almshouse, Beacon Street.

REPORT OF THE OVERSEERS OF THE POOR.

To His Honor the Mayor and the City Council of the City of Newton:

GENTLEMEN:—The Board of Overseers of the Poor herewith presents its annual report for the year ending December 31, 1889.

With one exception the board has remained unbroken during the year. By the death of Mr. John Warner the board suffered the loss of one who had served the city continuously in the capacity of Overseer of the Poor since the formation of the city government. Mr. Warner also held the office of City Almoner from March 1, 1877, and of Clerk of the board from February 7, 1878, to February, 1881. The following minute is copied from the records of the board:

IN BOARD OF OVERSEERS OF THE POOR.

It having pleased an overruling Providence to remove by death our esteemed associate, Mr. John Warner, therefore

Resolved, That we, the Overseers of the Poor of Newton, do hereby express our appreciation of the efficient and faithful service rendered by our associate during a long series of years as a member of this board and our regret at the loss to the cause he served and to the community.

Resolved, That these resolutions be spread upon the records and a copy sent to the bereaved family.

The expenses of the department for poor out of almshouse, which slightly exceeded the appropriation in 1887 and

1888, have left a balance in 1889. These varying results are caused partly by actual expenditures and partly by the fact that bills are received and paid in December in some years which are delayed in other years until the succeeding January.

The year has been a favorable one for laboring people in matters of business, while the bills for medical attendance and medicines have exceeded those of any past year.

The use of intoxicating liquors continues to be a prominent feature leading to crime and pauperism. Could this be abolished one great public burden would disappear. Much can be hoped from a continued vigorous enforcement of laws regulating their sale.

The number of patients placed in the Newton Cottage Hospital, chargeable to the city, has been 27. The amount paid the hospital for the same is \$300.06. In 1888 the amount paid was \$788.75. The difference in amount paid is partly accounted for by the fact that while in 1888 \$5.00 per week was paid from the appropriation of the Overseers for all state cases placed there, in 1889 \$3.00 per week was paid, that being the amount collectable from the state for all such cases. The direct appropriation from the City Council to the hospital is intended to cover the deficiency. The board desires to commend in high terms the hospital and its work. The efficient management, with the careful and thorough treatment given, appear to meet in the best manner the needs of those, especially the homeless and friendless ones, whose cases require the benefits of this charity.

Prominent among the charitable organizations of the city the "Newton Associated Charities" promises to be an important auxiliary in the care of the poor and unfortunate. Beside relieving needy families and preventing their applying to the Overseers of the Poor, the experienced lady visitors

may be of great assistance in families of limited income in advising in the management of their affairs.

The whole number of families out of almshouse, including Newton Cottage Hospital patients receiving partial support during any part of the year, was 156; whole number of persons, 415; having settlement in Newton, 246; having settlement in other cities and towns in the state, 69; having no settlement and chargeable to the state, 100; under 16 years of age, 213; of the whole number there were males, 182; females, 233.

Persons wholly supported during any part of the year, out of almshouse, are as follows:—

Taunton Lunatic Hospital	1
Danvers Lunatic Hospital	1
Northampton Lunatic Hospital	1
Tewksbury Insane Asylum, ...	1
Westboro Insane Hospital	4
Worcester Insane Asylum	2
Worcester Lunatic Hospital	9
Whole number supported in insane hospitals . . .	19
Remaining at present in insane hospitals . . .	11

Newton Cottage Hospital patients being now classified as partial support cases, do not appear in the full support schedule.

The amount appropriated by the City Council for the poor out of almshouse was	\$8,800 00
Transferred to almshouse expense and repairs	200 00
	\$8,600 00

The amount expended is as follows:—

Cash payments	\$263 55
Groceries	2,023 29
Fuel	716 20

Clothing	41	67	
Board	534	81	
Medical attendance	321	00	
Medicine	92	72	
Burials	83	00	
Feeding tramps and travellers	23	91	
Support of insane	1,813	56	
Paid other cities and towns	622	65	
Commonwealth of Massachusetts	485	39	
Salaries	1,349	98	8,371 73
Balance of appropriation		228	27
Receipts from the State, other cities and towns, and friends of the relieved		1,761	58
Net cost of poor out of almshouse		\$6,610	15

Almshouse Department.

The number of inmates has not varied materially from the previous year. Persons and families capable of partial self-support are relieved at their homes and encouraged to do what they may to keep out of the almshouse. The inmates as a rule enjoy a good degree of health for persons of their age, and this age is beyond the average of those outside who carry the toil and care of life in self-support.

The stock of the farm consists of three horses, five cows, and of swine varying from ten to thirty in number. It has been considered the true policy to keep good tools and machinery for working the farm. The hay crop has been large and was secured in fine condition, materially aiding in the receipts. A larger stock of wood than usual is now on hand ready for sale.

The number of persons who have been supported at the almshouse for all or any part of the year is 44; average num-

ber for the year, 30; present number, 30; died during the year, 2.

The amount appropriated by the City Council for

almshouse expense and repairs was . . .	\$4,000 00
Transferred from poor out of almshouse . . .	200 00
Total	4,200 00
Amount expended	4,147 71
Balance	52 29
Amount received from board, sales of produce, wood ect.	1,784 17
Almshouse expense and repairs (net)	2,363 54
The total appropriation for the Poor Department for the year was	12,800 00
Total expenditures	12,519 44
Total receipts	3,545 75
Net expense of the Poor Department	8,973 69
Unexpended balance	280 56

Since the reconstruction of the almshouse in 1882 it has not been used to its full capacity. The buildings are not at the present time in a good state of repair. It will be necessary to expend a few hundred dollars to put them in proper order for longer occupancy, should this course be considered desirable.

Respectfully submitted,

For the Overseers of the Poor,

NATHAN MOSMAN, *Clerk.*



ANNUAL REPORT
OF THE
SCHOOL COMMITTEE
OF THE
CITY OF NEWTON.
1889.

VOLUME L.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS,
1890.

ORGANIZATION OF THE SCHOOL COMMITTEE

JANUARY 1889.

HON. HEMAN M. BURR, MAYOR, CHAIRMAN, *ex officio*.

LAWRENCE BOND, PRESIDENT COMMON COUNCIL, *ex officio*.

CHARLES C. BARTON, CHAIRMAN.

THOMAS EMERSON, SECRETARY AND SUPERINTENDENT.

ELECTED MEMBERS.					WARDS.	TERM OF OFFICE EXPIRES.
*BRADFORD K. PIERCE	.	.	.	.	I.	January, 1892
J. EDWARD HOLLIS	.	.	.	.	I.	January, 1892
JOHN W. DICKINSON	.	.	.	.	II.	January, 1892
MARY R. MARTIN	.	.	.	.	II.	January, 1892
SAMUEL BARNARD	.	.	.	.	III.	January, 1891
ABBY E. DAVIS	.	.	.	.	III.	January, 1891
DAVID E. BAKER	.	.	.	.	IV.	January, 1891
CHARLES E. PARKER	.	.	.	.	IV.	January, 1891
**WALTER C. FROST	.	.	.	.	V.	January, 1890
ALBERT B. PUTNEY	.	.	.	.	V.	January, 1890
CHARLES C. BARTON	.	.	.	.	VI.	January, 1890
WILLIAM D. PHILBRICK	.	.	.	.	VI.	January, 1890
GEORGE W. SHINN	.	.	.	.	VII.	January, 1890
FRANCIS B. HORN BROOKE	.	.	.	.	VII.	January, 1891

* Deceased. CHARLES A. DREW was elected to fill the vacancy.

** Resigned. FRANK J. HALE was elected to fill the vacancy.

STANDING COMMITTEES.

High School.

CHARLES C. BARTON.

JOHN W. DICKINSON.

FRANCIS B. HORN BROOKE.

Ward One.

BRADFORD K. PEIRCE.

J. EDWARD HOLLIS.

FRANCIS B. HORN BROOKE.

Ward Two.

JOHN W. DICKINSON.

MARY R. MARTIN.

GEORGE W. SHINN.

Ward Three.

ABBY E. DAVIS.

SAMUEL BARNARD.

LAWRENCE BOND.

Ward Four.

CHARLES E. PARKER.

DAVID E. BAKER.

SAMUEL BARNARD.

Ward Five.

ALBERT B. PUTNEY.

WALTER C. FROST.

WILLIAM D. PHILBRICK.

Ward Six.

CHARLES C. BARTON.

WILLIAM D. PHILBRICK.

BRADFORD K. PEIRCE.

Ward Seven.

GEORGE W. SHINN. FRANCIS B. HORN BROOKE.
J. EDWARD HOLLIS.

Evening Schools.

GEORGE W. SHINN. BRADFORD K. PEIRCE.
MARY R. MARTIN.

Drawing, Music, and Sewing.

ABBY E. DAVIS. ALBERT B. PUTNEY.
MARY R. MARTIN.

Text Books.

CHARLES C. BARTON. FRANCIS B. HORN BROOKE
ALBERT B. PUTNEY.

Rules and Regulations.

WALTER C. FROST. GEORGE W. SHINN.
BRADFORD K. PEIRCE.

Salaries.

FRANCIS B. HORN BROOKE. SAMUEL BARNARD.
J. EDWARD HOLLIS.

School Houses.

JOHN W. DICKINSON. CHARLES E. PARKER.
J. EDWARD HOLLIS.

Accounts.

SAMUEL BARNARD. ABBY E. DAVIS.
LAWRENCE BOND.

Supplies.

WILLIAM D. PHILBRICK. CHARLES E. PARKER.
WALTER C. FROST.

City of Newton.

IN BOARD OF SCHOOL COMMITTEE, September 25, 1889.

The Chair appointed the following members as the committee to prepare the Annual Report, viz.: Charles C. Barton, John W. Dickinson, Francis B. Hornbrooke.

IN BOARD OF SCHOOL COMMITTEE, December 23, 1889.

The Annual Report was read by Mr. Barton, and was adopted.

Ordered, That twenty-six hundred fifty copies of the Annual Report be printed.

THOMAS EMERSON, *Secretary*.

REPORT OF THE SCHOOL COMMITTEE.

The school committee herewith submits its report for the year 1889, being the fiftieth Annual Report.

The schools of Newton have had a prosperous year. The results of skilled supervision and of the cordial co-operation of instructors are now seen, more fully than before, in the thorough organization of the schools, and in the improved methods of conducting their exercises.

The superintendent has taken great pains the past year to present to the committee for appointment to the vacant places in the teaching force teachers who have had a professional training and a successful experience. These teachers have been found, not through letters of recommendation merely, nor alone through verbal examination, but added to these means of information there has been the most careful observation by the superintendent of work done by these persons in the school room. This mode of selection is filling the public schools of Newton with instructors of the highest order.

While the causes of popular education in this Commonwealth are found in the people acting together as a people in the cordial and generous support of the schools; in the School Committee chosen by the people to be their executive school officers; in the school superintendents, the legal agents of the School Committee; and in the teachers and pupils of the schools; the necessary means for the causes to use, are found in school houses constructed with reference to convenience, comfort, and good taste; in courses of studies adapted to

occasion in the minds of the children useful knowledge and a right development of their faculties; in methods of teaching; and in text books, in natural objects, and in illustrative apparatus.

An intelligent examination of the schools of the city will show that they are supplied not only with skilled teachers and earnest pupils, but with the most approved means of teaching also.

The best argument for the maintenance of public schools must always be found in the evident value of the education they furnish, and in the use which the pupils make of the opportunities so abundantly provided. The vital question must always be, how can such an education be obtained?

Many factors must enter into the successful work of the schools. Among these one of the most essential is the co-operation of the parents. No school can hope for the most desirable results where this co-operation is wanting.

People demand that the corps of instructors should be carefully selected with reference only to their fitness for communicating the best knowledge in the best way. They also demand that those subjects that go towards the formation of a thoroughly educated man or woman of to-day should be embodied in the course of study. These things those intrusted with the care of the schools have faithfully tried to do.

But it is not enough to have good teachers and a wisely planned and ample course of study. These alone cannot make the school what it ought to be, nor enable it to do the work it ought to do.

Pupils must study, and they must give all the strength they can command to the work in hand. Nothing less than the undivided devotion of time and energy to that will avail.

It may be asked, what have the parents to do with this? Much more than they are apt to think. They still have or

ought to have much influence over their children, and control of the use of their time. Youth cannot be expected to feel the importance of giving all available time and force to the work of the school. They have not had the experience that can make this a real thing to them. But most parents have learned this lesson. They realize that there is only so much of any one, and that what is given to one part of life is so much taken from another.

The teacher knows this, and tries to impress it, but the scholar is apt to think that the teacher is looking at the matter from an interested point of view.

Just here, therefore, the co-operation of the parent will be of the greatest service to the teacher and pupil and in consequence to the whole work of the school. It is a source of regret that parents often do not seem to realize this.

They allow their children to assume many of the burdens of social life, not seeming to be aware that the demands of the school and society can not be met by those who do their duty by either, and that most of those who try to serve the two masters must either overtax their strength or neglect the one for the other.

The complaint is sometimes made that the work of the schools is too hard, and that the pupils have too much to do. And they have too much to do if they try to do work or to enter into engagements outside of the school. Parents can help in this matter by refusing to allow their sons and daughters to take upon themselves extra duties, and by insisting that if anything is to be given up it must not be the required work of the school.

There is still another way in which the parents may be of the greatest service: Pupils are often anxious to do some work or to acquire some accomplishment outside of the school. To do this, it is necessary for them to be absent from some regular

recitation, or to use the time which is allotted to study by the school. If parents would throw the weight of their influence altogether in favor of the demands of the school, we do not think that requests for leave of absence in order to take music or dancing lessons would be so frequently made. If they would impress upon the minds of their children that because the city spends its money for their education, they are under a moral obligation to give all their time to the work it imposes, we think pupils would soon feel that they have no right to do anything which would conflict with the purposes of the school.

A general feeling among the parents in favor of punctual and regular attendance and a determination upon their part to secure undivided interest in the proper work of the school and also to oppose whatever distracts attention from it, would produce the most beneficial results.

Parents may also do very much for the school by doing all they can to sustain the authority and influence of the teacher. It must be clear that a teacher of whom the parents allow themselves to speak in terms of disparagement cannot keep the respect of the pupils. Of course no school is above criticism, and every teacher may at times deserve it, but there are times and places for it more appropriate than in the presence of the pupils. The spirit of criticism is always destructive of authority, and nowhere more so than in the school room. It may seem to parents that the teacher deserves blame for his mode of dealing with their children, but if so it will be better to know all the circumstances before deciding that all the blame or any attaches to the teacher. Many a teacher has harder work to do because the parent takes a one-sided view of some circumstance and condemns him unheard, and so saps his authority, and subjects him to the disrespect of the pupil.

There is another aspect of this matter which ought to have the careful consideration of all parents. It may seem to

them that many regulations are imposed for which there is no real need. We are also of the opinion that the fewer the rules the better, and that the more pupils can be trusted to do what is right the better it is for them and for those who have them in their care. It should be taken for granted that the pupils will want to do what will be for their own good, and for the well being and good name of the school. But, on the other hand, it must be evident that what might be allowable and harmless in a school of forty or fifty pupils may be destructive of the orderly movement of the school when it has ten times that number. Many demands which are trifling so far as this or that pupil is concerned, would not seem so if viewed with reference to the orderly and harmonious working of a great school. We trust that parents will regard in this light all rules that are made from time to time, and will give the teacher credit for having the best interests of the school at heart, before condemning his action. In this way very much which at first sight might appear harsh and unreasonable would appear most reasonable, and, in the larger view, the kindest thing that could be desired.

In thus suggesting some of the ways in which parents can aid the schools in achieving the best possible results, we do not wish to be regarded as making a special criticism upon the people of Newton. Many of them, we know, act in the spirit in which we have indicated parents ought to act. Perhaps there are as many of these in Newton as anywhere; but we throw out these suggestions because, obvious as they are, they cannot be too often repeated or too deeply impressed upon the mind and heart of any community which desires the best results in the work of its schools.

The sanitary condition of the school houses has attracted the attention of the superintendent, and the School Committee, and, so far as possible, defects have been remedied. As the

school population in the different parts of the city has increased, new school buildings have been erected and furnished with modern improvements in lighting, heating, and ventilation. The courses of study taught in the schools have been reconstructed with reference to the wants of the mind as its powers are developed, and with reference to the relations that one branch of knowledge holds to another. Special attention in all the schools has been turned to methods of teaching. That natural methods may be employed, the schools have been supplied with the real objects of knowledge, and with simple illustrative apparatus.

All necessary text books and school supplies have been selected and obtained with careful attention to quality and economy.

The results of these things may be seen by visiting our schools and witnessing the intelligent work of the pupils and the great interest they take in its performance.

The industrial element in education has been introduced into all the schools by exercises in industrial drawing and modelling in clay, by the practice on the part of the pupils of constructing simple apparatus for illustrating topics in elementary science, and by exercises in sewing. Newton was one of the first, if not the first, town in the Commonwealth, to introduce drawing into the regular exercises of its elementary schools, but not till within a few years has the subject held equal rank with other studies, in the estimation of either the school authorities or the people.

High School.

The High School holds an important place in our system of public schools. It offers free scientific instruction to all who choose to enter its classes. It produces a marked influence on the character of the instruction and on the school

spirit in all the grades of schools below it. Francis Adams, of England, said that if the primary schools of Germany were the best in the world, it was because the secondary schools were open free to all.

Primary courses of instruction, the methods by which they are presented to the children, and the regularity of attendance in the lower schools are all modified by the character of the high school and by the opportunities it offers to all classes of children for scientific study and for a preparation to enter the higher institutions of learning. Our high school is organized and equipped for producing the best results. Its accomplished and faithful principal, with his able corps of assistants, is doing valuable service for the school and for the city. Those who have made a thoughtful examination of the spirit and work of our high school agree in giving it a rank of excellence second to no other institution of its grade in the Commonwealth.

Supervision.

A superintendent of public schools in Massachusetts is an agent of the school committee. They delegate to him all the authority he is expected to exercise. But he is supposed to be an expert in everything pertaining to the administration of school affairs, and as he is made responsible for the results which the schools produce, a definite work should be assigned by common consent for him to do. He should be allowed to nominate the teachers, to arrange courses of studies, direct the teachers in their use of methods of teaching,—suggest the text books that should be used, purchase and deliver them to the schools, give advice concerning the method of school government that should be employed, report upon the condition of the school houses, secure the attendance of all children of school age, keep a record of the acts of the School Board,

and make an annual report of his own doings to them and to the town.

The necessity of employing such agents will appear when we reflect on the duties of their office. It is the policy of the Commonwealth to place the legal control of the public schools in the charge of School Boards, but at the same time to make provision for the appointment of skilled agents who, acting under general directions, shall perform those school duties which require the exercise of skill, learning, and experience. Seventy-four per cent. of the schools of the State are already directed by special supervision.

The Newton School Committee is fortunate in being able and disposed to employ a skilled school superintendent. Under his faithful and efficient supervision the public schools of Newton are taking the highest rank. Such service is of great value to the city, and deserves recognition and appreciation.

The Schools and the State.

The necessary attributes of a good citizen are 1st, general intelligence, that he may know what sort of personal life will contribute most to the support of good government, and public morals; 2nd, a patriotic loyalty, that he may render a cordial and constant support to those institutions which government has established for producing an intelligent, virtuous and prosperous people; 3d, industrious habits, that he may provide for his own wants and contribute his share for the promotion of the public good; 4th, an unswerving integrity, that he may be honest himself, and lead others to exercise that fidelity and truth without which civil society is impossible; and 5th, complete self-control that substitutes deliberation and reason for impulse and prejudice.

The home is the original institution established for cultivating these private and public virtues. The home, organized

for instruction and control, as well as for protection and support, is responsible for that early training which will make the child a willing subject to all those influences which have a tendency to develop him into a good citizen. It is the great work of the public school to continue, and, as far as possible, perfect this development.

To develop intelligence, there must be an orderly course of exercises, adapted to train the mind to think.

To cultivate loyalty, there must be a good government and a perfect obedience to its rules.

Industrious habits are developed by a punctual and thorough performance of daily tasks.

Integrity, the virtue that includes all other virtues, is produced by creating in the mind a sacred regard for truth, and a habit of conscientious accuracy in thinking and in describing the ideas which thinking may produce.

Self-control is the end to be attained by all the forms of school discipline that may be employed. Self-control implies an intelligent regard for the highest good, a freedom from prejudice, and from the influence of the selfish principle of action, and requires the exercise of a strong will.

Some one has wisely said that whatever we would have appear in the State we must first put into the schools. Bearing this most important truth constantly in mind we should organize these institutions and administer their affairs with a spirit that shows a high regard for our future civilization.

The financial report for the year ending June 30, 1889, is a most gratifying one. There was expended during the last year, \$123,918.44, exclusive of school buildings and evening schools, being an average of \$33.14 per pupil. The chief item of expense was for teachers' salaries, and amounted to \$89,922.22.

It cannot be expected that the cost of our schools can be

much less per pupil than for the past year. The cost is often severely criticized by a certain class of citizens, but thus far, no one seems able or willing to point out to the School Committee the direction in which a saving of expense can be made. The salaries of our teachers are not higher than good teachers command in adjoining cities, and this Board does not believe it should ask or expect the best work from underpaid teachers. There is no work demanded of any public official more exacting than the work of the teachers in our public schools, and when we consider that the expense of living in Newton is higher than in the adjoining towns, we are very sure that a reduction of salaries would result in the loss of many of our best teachers, would produce a great and lasting injury to the schools, and would be an injustice to the teachers themselves. Again the wide distance between our school buildings in the different villages of Newton and the small number of pupils in some buildings add largely to the expense of maintaining the schools.

The Oak Hill School costs in round numbers nine hundred dollars per year, and the average number of pupils is about fifteen, making the expense per pupil sixty dollars per year. In other localities where the number of scholars is small, the expense is correspondingly large. But are the expenses of the Newton schools higher than those of other towns and cities of the Commonwealth? Comparing the towns and cities with reference to the percentage of their taxable property appropriated to the support of public schools during the past year, Newton is the fourteenth among the twenty-five cities of the State, and the 222d among the 351 cities and towns of the Commonwealth. These facts are a sufficient answer to the question.

The average cost per pupil compared with that of the preceding year shows a decrease of \$1.68, and is less than

the average cost for the last ten years. This is a showing that should be satisfactory to the citizens of Newton, and gratifying to those who have had the general control of the schools for the past year. The detailed items of expense of the schools, and many other facts of interest to the citizens will appear in the report of the superintendent, annexed to this report.

CHARLES C. BARTON,
FRANCIS B. HORNBROOKE,
J. W. DICKINSON,
Committee on Annual Report.

SECRETARY'S REPORT.

APPROPRIATIONS AND EXPENDITURES FOR 1889.

General appropriation . . .	\$106,215 00	
Received from dog tax . . .	2,708 52	
		\$108,923 52
Transferred to incidentals . . .	700 00	700 00
		\$108,223 52
Amount paid superintendent . . .	\$2,880 00	
“ “ teachers . . .	90,355 36	
“ “ janitors . . .	6,829 00	
“ “ secretary . . .	300 00	
“ “ fuel . . .	7,164 98	
Amount expended . . .		\$107,529 34
Balance unexpended . . .		\$694.18
School incidentals . . .	\$10,000 00	
Transferred from general appropriation . . .	700 00	
		\$10,700 00
Amount expended . . .		10,527 29
Balance unexpended . . .		\$172 71

Evening schools	\$1,000 00	\$1,000 00
Amount expended . . .		659 75
Balance unexpended . . .		\$340 25

RECAPITULATION.

APPROPRIATIONS.

Total amount, including dog tax .	\$119,923 52
-----------------------------------	--------------

EXPENDITURES.

General appropriation . . .	\$107,529 34
Incidentals	10,527 29
Evening schools	659 75
Total amount expended . . .	\$118,716 38
Balance unexpended	\$1,207 14

THOMAS EMERSON, *Secretary.*

DECEMBER 20, 1889.

SUPERINTENDENT'S REPORT.

To the School Committee of Newton :

In conformity to the rules of the Board, I respectfully present my annual report for the year 1888-89. The schools were in session forty weeks, beginning Sept. 10, 1888 and ending June 28, 1889. The statistics in this report cover the school year, July 1, 1888 to June 30, 1889.

A general exhibit of the results of the last school census, of the number of school buildings and the value of the school property, of the enrolment and attendance of the pupils, and of the cost of the schools, is given in the following statistics :

School Census.

Population of the city, State census of 1885 . . .	19,759
Number of persons in the city between five and fifteen years of age, May 1, 1889 . . .	4,202
Number of pupils between five and fifteen years of age attending the public schools in May, 1889 . .	3,359
Number of pupils between five and fifteen years of age in private schools	225
Number of persons between five and fifteen years of age not attending school	543

Number of pupils between eight and fourteen years of age attending the public schools in May, 1889	2,182
Number of pupils between eight and fourteen years of age in private schools	109
Number of persons between eight and fourteen years of age not attending school	69

School Buildings.

Number of school houses	22
Number of buildings rented for school purposes .	1
Number of occupied rooms, May 1, 1889 . . .	106
Number of unoccupied rooms, May 1, 1889 . .	7
Total number of rooms, May 1, 1889 . . .	113
Number of halls, May 1, 1889	4
Total number of sittings, May 1, 1889 . . .	4,712

The total value of the school houses, furniture, and land is \$581,600. The following table gives the value of the school property in detail:—

High school buildings, furniture, and land .	\$113,000 00
Bigelow school house, furniture, and land .	44,000 00
Underwood school house, furniture, and land .	24,000 00
Lincoln school house, furniture, and land .	5,500 00
Jackson school house, furniture, and land .	15,000 00
Eliot school house, furniture, and land .	19,000 00
Adams school house, furniture, and land .	22,500 00
Claffin school house, furniture, and land .	35,000 00
Pierce school house, furniture, and land .	32,000 00
Davis school house, furniture, and land .	13,000 00
Franklin school house, furnit ^{rue} , and land .	15,500 00
Barnard school house, furniture, and land .	21,000 00
Williams school house (old), and land .	10,000 00
Williams school house (new), furniture, and land	35,000 00

Hamilton school house, furniture, and land	28,000 00
Prospect grammar school house, furniture, and land.	31,000 00
Prospect primary school house, furniture, and land	7,500 00
Hyde school house, furniture, and land	24,500 00
Mason school house, furniture, and land	49,100 00
Rice school house, furniture, and land	20,000 00
Thompsonville school house, furniture, and land	5,000 00
Oak Hill school house, furniture, and land	12,000 00
Total.	\$581,600 00

Schools.

High School	1
Grammar schools	48
Primary schools	38
Mixed school	1
Total	88

Teachers.

Number of teachers in high school	12
Male teachers, 5 ; female teachers, 7.	
Special teachers in high school	3
Male teachers, 1 ; female teachers, 2.	
Number of teachers in grammar schools	48
Male teachers, 10 ; female teachers, 38.	
Number of teachers in primary schools	38
Number of teachers in mixed school	1
Special teachers of sewing	3
Special teachers of music	1
Whole number of teachers	106
Male teachers, 17 ; female teachers, 89.	

Enrolment and Attendance.

Whole number of pupils enrolled, 1888-89 . . .	4283
Whole number of pupils enrolled, 1887-88 . . .	4213
Increase	70
Average whole number of pupils enrolled, 1888-89 . .	3738.7
Average whole number of pupils enrolled, 1887-88 . .	3650
Increase	88.7
Average number of pupils in daily attendance, 1888-89	3570
Average number of pupils in daily attendance, 1887-88	3384
Increase	186
Average per cent. of daily attendance, 1888-89 . .	92.4
Average per cent. of daily attendance, 1887-88 . .	92
Increase	.4
Whole number of tardinesses, 1888-89	3797
Whole number of tardinesses, 1887-89	3872
Decrease	75
Whole number of pupils enrolled in evening schools, 1888 (males, 81; females, 110) . .	191
Whole number of pupils enrolled in evening school, 1886-87	120
Increase	71
Average number in attendance, 1888	115
Average number in attendance, 1886-87	60
Increase	55

* The following table shows the total enrolment, average whole number, average attendance, and per cent. of attendance, in the schools from 1880 to 1889, a period of ten years. The increase in the total enrolment of the pupils during this period was 865; in the average whole number, 914.3; in the average attendance, 998.7.

YEARS.	Total Enrolment.	Average Whole Number.	Average Attendance.	Per cent. of Attendance.
1880	3,418	2,824.4	2,571.3	91.5
1881	3,677	2,844.7	2,588.3	91
1882	3,759	3,092.7	2,796.7	90.4
1883	4,002	3,170.3	2,903.8	91.6
1884	3,963	3,275.9	2,992.9	91.4
1885	4,029	3,356.5	3,047.2	90.8
1886	4,106	3,527.7	3,238.8	91.8
1887	4,237	3,665.7	3,357.1	91.3
1888	4,213	3,650	3,384	92
1889	4,283	3,738.7	3,570	92.4

A more detailed exhibit of the statistics of the school will be found in the tables appended to this report.

Table I shows the number of persons in the city, between five and fifteen years of age, May 1, 1881-89.

Table II shows the number of rooms, halls, sittings, pupils, teachers, and number of pupils to a teacher in each school, May 1, 1889.

Table III shows the number of pupils of different ages in each school, May 1, 1889.

Table IV shows the semi-quarterly attendance, by schools, for the year ending June 30, 1889.

Table V shows the total enrolment, attendance, etc., by schools, for the year ending June 30, 1889.

Table VI shows the number of pupils and their average age, by grades, in September, 1888.

Table VII shows the annual enrolment in each grade in September, 1880-88.

Table VIII shows the percentage of the total annual enrolment in each grade, in September, 1880-88.

Table IX shows the distribution of the pupils in the high school, by grades and courses of studies for the year ending June 30, 1889.

Remarks on the Census.

In conformity to the requirement of the General Statutes, an enumeration of the school population of the city was made in May last, and a record of the same has been deposited in this office.

The school population of the city on the first day of May, 1889, was 4,202, an increase of 115 compared with the year 1888. By reference to table I in the appendix to this report, it will be seen that there is an increase in each of the wards except the seventh. In the seventh there is a decrease of twenty-two.

The number of pupils between five and fifteen years of age attending the public schools, on the first day of May, 1889, was 3,359; the number in private schools was 225; making the total number of pupils between five and fifteen years of age in the public schools of the city, and in private schools, on the first day of May, 1889, 3,584. Deducting this sum from 4,201, the total school population of the city, we have 617, which is the number of persons in the city, between five and fifteen years of age, not attending any school, public or private, on the first day of May, 1889. Of this number 74 were at work in mills and elsewhere, and 543, most of whom were under seven years of age, were at home.

School Houses.

The number of school houses in the city is twenty-two. The number in use during the past year was twenty-one. The school at Thompsonville occupied a rented building until January 1 of the present year. Since that time it has occupied the new school building erected for its accommodation on Station street. The whole number of sittings, including those in the leased building, is 4712.

Permanent improvements have been made in several of the school buildings. The most important of these is the introduc-

tion of larger and better means of ventilation. The work is going forward as rapidly as circumstances will allow, and will probably be nearly or quite completed during the next school year.

The progress already made in this direction is extremely gratifying. The thanks of the Board and of the citizens generally are due to the City Council for its liberal policy and intelligent action in securing to our schools the advantages of improved sanitation.

Cost of the Schools.

The amount expended for school purposes, exclusive of evening schools and new school buildings, under the direction of the School Board, during the past school year, was \$116,999.04, being an average of \$31.29 per pupil. The amount expended under the direction of the City Council, chiefly for permanent improvements, was \$6,919.90. The aggregate amount expended was \$123,918.44, being an average of \$33.14 per pupil. It is gratifying to be able to report that the average cost per pupil, compared with that of the preceding year, shows a decrease of \$1.68, and is less than the average cost for the last ten years.

The expenditures of the Board include the following items: teachers' salaries, \$89,922.22; salary of superintendent, \$2800; salary of secretary, \$300; salaries of janitors, \$6830; fuel, \$7352.16; incidentals, \$9,794.66.

The incidental expenses include the following items: books, \$2315.12; school supplies, \$2754.82; janitors' supplies, \$297.34; repairs, \$795.70; furniture, \$538.90; printing, \$503.85; water, \$1048.41; gas, \$131.40; truancy, \$407.91; miscellaneous, \$1003.21.

The amount expended for evening schools was \$574.45.

The amount expended for new school buildings was \$4543.93.

The following table shows the cost of the schools, exclusive of the amount expended for evening schools and for new school buildings, from 1880 to 1889. It also shows the cost per pupil based upon the average whole number belonging. The average cost per pupil for the ten years was \$33.36.

COST OF THE SCHOOLS, 1880-1889.

YEAR.	Whole Cost.	Average Whole Number.	Cost per Pupil.
1880	\$86,397 64	2,824.4	\$30 59
1881	87,669 48	2,844.7	30 82
1882	94,885 43	3,092.7	30 68
1883	119,359 75	3,170.3	37 65
1884	109,103 42	3,185.9	34 25
1885	111,632 56	3,356.5	33 25
1886	121,154 20	3,527.7	34 35
1887	124,718 13	3,655.7	34 11
1888	127,110 10	3,650	34 82
1889	123,918 94	3,738.7	33 14

The comparative cost of the schools may be gathered from the following tables. The first is a graduated table in which the cities in the State are numerically arranged according to the percentage of their taxable property appropriated to the support of public schools for the year 1888-89. The second is a similar exhibit of the cities and towns of Middlesex County.

The statistics of the schools of the State and county are inserted here for the convenience of those who do not have access to the report of the secretary of the State Board of Education, from which they are taken.

Comparing the towns and cities of the State with reference to the percentage of their taxable property appropriated to the support of public schools during the past year, we find that Newton is the fourteenth among the twenty-five cities of the State, the thirty-third among the fifty-four cities and towns of Middlesex County, and the two hundred twenty-second among the three hundred fifty-one cities and towns of the Commonwealth.

Comparing the towns and cities with reference to the average cost per pupil, based upon the average whole number belonging, we find that Newton holds the first place in the county and the fourth in the State.

For 1887-88 by the State Valua- tion of 1887.	CITIES.	Percentage of Valuation appropriated to Public Schools equivalent to mills and hundredths of mills.	For 1887-88 by the State Valua- tion of 1887.	CITIES.	Percentage of Valuation appropriated to Public Schools equivalent to mills and hundredths of mills.
<i>Cities of the State.</i>					
1	Waltham . .	\$.004-24	14	Newton . .	\$.003-23
2	Gloucester . .	3-99	15	Taunton . .	3-22
3	Quincy . .	3-91	16	Cambridge . .	3-17
4	Haverhill . .	3-78	17	Fall River . .	3-17
5	Woburn . .	3-68	18	Northampton,	3-14
6	Holyoke . .	3-64	19	Salem . .	3-09
7	Malden . .	3-50	20	Lowell . .	3-01
8	Somerville . .	3-43	21	New Bedford,	2-81
9	Fitchburg . .	3-43	22	Springfield . .	2-70
10	Lynn . .	3-35	23	Lawrence . .	2-69
11	Chelsea . .	3-33	24	Newburyport,	2-24
12	Worcester . .	3-32	25	Boston . .	1-96
13	Brockton . .	3-32			
<i>Middlesex County.</i>					
1	Marlborough,	\$.004-94	28	Hopkinton . .	\$.003-34
2	Westford . .	4-51	29	Pepperell . .	3-34
3	Natick . .	4-43	30	Wilmington . .	3-32
4	Holliston . .	4-32	31	Shirley . .	3-31
5	Stoneham . .	4-29	32	Sherborn . .	3-28
6	Waltham . .	4-24	33	Newton . .	3-23
7	Ashby . .	4-07	34	Boxborough . .	3-21
8	Hudson . .	4-05	35	Cambridge . .	3-17
9	Wakefield . .	4-00	36	Maynard . .	3-16
10	Medford . .	3-94	37	Watertown . .	3-16
11	Reading . .	3-84	38	Lexington . .	3-07
12	Arlington . .	3-78	39	Lowell . .	3-01
13	No. Reading . .	3-77	40	Fyngsboro' . .	2-98
14	Ashland . .	3-73	41	Dunstable . .	2-74
15	Ayer . .	3-73	42	Weston . .	2-74
16	Woburn . .	3-68	43	Bedford . .	2-69
17	Concord . .	3-64	44	Belmont . .	2-59
18	Winchester . .	3-63	45	Carlisle . .	2-47
19	Melrose . .	3-62	46	Dracut . .	2-44
20	Townsend . .	3-56	47	Billerica . .	2-42
21	Malden . .	3-50	48	Stow . .	2-42
22	Wayland . .	3-45	49	Burlington . .	2-32
23	Framingham . .	3-44	50	Tewksbury . .	2-17
24	Somerville . .	3-43	51	Sudbury . .	1-99
25	Acton . .	3-40	52	Groton . .	1-88
26	Littleton . .	3-40	53	Lincoln . .	1-57
27	Chelmsford . .	3-34	54	Everett . .	1-37

School Supplies.

The number of text-books in use during the past year was 37,914, an increase of 2629 compared with the previous year. The number of reference books was 2055, an increase of 167. The number of books worn out at the close of the year was 2172, the number missing was 268.

The following table shows the distribution of the books among the several schools:—

SCHOOLS.	Text Books.	Reference Books.	Worn Ou	Missing.
High	7,268	195	287	94
Bigelow	4,264	174	247	40
Eliot	2,820	146	314	15
Adams	2,469	135	42	8
Claffin	2,587	134	83	0
Pierce	4,809	275	431	9
Williams	2,810	212	147	6
Hamilton	1,715	125	12	5
Prospect	2,627	152	145	13
Hyde	2,492	129	152	11
Mason	3,778	258	288	67
Oak Hill	275	20	24	0
Totals	37,914	2,055	2,172	268

The amount expended for new books was \$2100.16; the amount paid for rebinding books was \$214.96; the total amount expended for books was \$2315.12. The cost per pupil, based upon the average number belonging, was sixty-two cents.

The amount expended for supplies was \$2754.82. The cost per pupil was seventy-four cents.

The following table shows the amount expended for books and supplies during each school year from 1884 to 1889. It also shows the average cost per pupil. The amount expended for books includes the cost of new books and the cost of repairing old books:—

SCHOOL YEAR.	BOOKS.	Cost per Pupil.	SUPPLIES.	Cost per Pupil.	Total per Pupil.
1884-5 . . .	\$5,896 30	\$1 76	\$3,177 44	\$0 95	\$2 71
1885-6 . . .	2,953 92	84	3,746 95	1 06	1 90
1886-7 . . .	3,842 00	1 05	2,797 37	76	1 81
1887-8 . . .	2,078 67	57	3,903 21	1 06	1 63
1888-9 . . .	2,315 12	62	2,754 82	74	1 36

The free text-book law having now been in operation five years, it is probable that the annual cost of replacing the books worn out has nearly or quite reached its maximum, and that the average cost per pupil, from year to year, will not vary much from the amount expended the past year.

Referring to the free text-book laws in my report of 1885, I wrote as follows: "It is too early to judge definitely of the practical working of the free text-book law. That it will be attended with some disadvantages, there can be no doubt. The following advantages, however, may reasonably be expected to result: 1. It effects a saving of time. Under the system of individual purchases, a delay of a week, or even more, was not unusual at the opening of the schools in September. The cost of our schools is in round numbers, five hundred dollars a day, reckoning two hundred school days to the year. Viewed from this point, a week's delay becomes a matter of grave importance. Under the present system, the work of the school may begin at once. There need not be a delay of a single hour." This claim, I may remark, has been fully realized. In all our schools, from the primary to the high, lessons are assigned and the pupils enter upon their work on the first day of the school year.

2, "It effects a saving of expense. First, the cost of the books is less. The individual pays retail prices; the city buys at lowest wholesale prices. On account of the exceptionally large discount allowed on this class of merchandise the differ-

ence between these prices is considerable, being from ten to fifty per cent. of the retail price. Again, under the new system the books are used till they are worn out. In the case of individual ownership, they are often thrown aside after being used for a few months or possibly a year."

This claim also has been realized to an exceptional extent. From a careful comparison of statistics collected from all parts of the country where the plan is in use, it is fair to conclude that the system of free text-books effects a net annual saving of from one dollar to one dollar and a half on each pupil enrolled. In other words, the people of Newton, whose school enrolment is a little more than four thousand, are realizing an annual saving of not less than five thousand dollars. The people of Boston, whose school enrolment is in round numbers sixty-five thousand, are realizing an annual saving of not less than seventy-five thousand dollars. To the State of Massachusetts, with a school enrolment of three hundred sixty thousand, the saving is nearly or quite five hundred thousand dollars a year. If the system were in operation in all the States, the annual saving would amount to the enormous sum of ten million dollars.

The new plan has another important advantage, and one that has received less consideration than it deserves. It induces less frequent changes in text-books. Under the system of individual ownership changes were frequent, involving a large expense, and imposing a heavy burden upon the majority of the patrons of our schools. Under the new plan changes are very rare. During the past five years there have been no changes in our primary and grammar schools and only two in the high school. New books have been added from time to time to the list of authorized text-books, with a view to enlarge the scope of the work of the schools and to improve the methods of instruction, but there has been no waste of public money by the

substitution of new text-books for those already authorized and in use. By referring to the table already given it will be seen that the average cost per pupil for text-books the past two years is a fraction less than sixty cents. These figures cover the cost of reference books as well as text-books in all the schools—primary, grammar, and high—and they seem to me to speak for themselves.

Drawing.

At a meeting of the Board, held September 26, 1888, it was ordered "That the plan of work in industrial drawing as outlined by Mr. Henry T. Bailey in the report of the State Board of Education for the year 1886-7 be adopted for use in the schools of Newton, and that the superintendent be instructed to see that it is carried into effect, as far as is practicable, during the present school year." The object of the Board in passing this order was to engraft the industrial idea more fully upon our system of instruction and thus make our schools more practical and more helpful. It is believed that drawing thus taught may also be made to contribute valuable aid in the study of other branches, such as arithmetic, geography, and sewing. With these objects in view measures were at once taken to execute the order of the Board. For the details of the work, I beg leave to refer you to the report of Miss Pond, supervisor of drawing in the primary and grammar schools. Miss Pond is so happy in her treatment of the subject, and her report is so valuable a presentation of the methods and aims of art instruction in our schools that I have taken the liberty to insert it in full for the information of the Board. The report is as follows:—

"In September, 1888, on being appointed teacher of drawing in the Newton public schools, it seemed to me best to lay out for the primary and grammar grades a plan of work

based on the general lines indicated by Mr. Bailey in his 'Outline of an Eight Years' Course of Study in Drawing.' This outline, a crystallization of the thought of many minds working for Art-education, may be found in the report of the Mass. State Board of Education, 1886-1887.

This plan of work received the hearty endorsement of members of the Board and especially of the committee on industrial education.

This entire agreement as to the best course to be pursued was from the first an immense stimulus. So too was the hearty and universal cooperation of the teachers of the primary and grammar grades. Many found the work new, perhaps even difficult; but none withheld a conscientious effort.

All branches of form study not purely æsthetic must begin with the faithful observation of certain well known solids. The child's first lesson in drawing is but a little game of ball: the sphere, simplest of all solids, and already a more or less familiar shape, is given to him to observe as a whole. He touches it, handles it, rolls it, tosses it, slides it; he finds that it is smooth and round and has but one surface. Give him a bit of clay, and he will eagerly roll up a little sphere, trying to reproduce in his solid all that he has seen and felt in the original. Next he receives a cube, finds out certain truths to tell about it, and, as before, endeavors to express these truths in his little clay image. Last of all, the cylinder is used in the same manner. From these three solids, and the host of natural forms based upon them, may be derived all the subjects of drawing during the first primary year. The child draws the picture of a sphere, i. e., a circle; the picture of a cube, i. e., a square; the picture of a cylinder, i. e., a circle or an oblong. In the cube he feels and sees corners, edges, faces; and these he translates by point, lines, squares. His line work is doubtless crude and cramped, but if he has

observed and moulded the solids before drawing them, his conceptions of their forms are clear and tolerably accurate, whatever may be the inevitable defects in his technique.

During the next two years, he advances to other solids. The square prism, the triangular prism, the square pyramid, the cone, the ellipsoid, the ovoid are observed and modelled; also a large number of natural objects of approximate form. Resulting details of form, such as oblongs, triangles, ellipses, and ovals are studied not only by being drawn on paper and blackboard, but by being cut out of paper.

In the fourth year, the clay is laid aside, and other materials are used for construction. The child continues his study of the various solids, and draws and cuts out their details of form. He carefully reviews circles and ellipses, and advances to the pentagon and hexagon, always cutting out of paper each new form studied. By this time a manifest improvement in quality of work should make itself felt. The pupil begins the study of the various curves used by nature and art, and draws the two spirals, first constructing them by means of a string. He also cuts out little silk reels, pencil-sharpeners, pen-wipers, and other similar objects, using wood, cardboard or cloth, as the case demands.

In the fifth year, he begins two apparently new subjects; he advances to a more formal consideration of (1) working drawings, and (2) model drawings. In the former subject he is taught how to express front view, top view, bottom view, and end view; he learns the uses of full lines, dotted lines, dot-and-dash lines; he studies simple developments of surfaces. In the latter subject, he takes apparent measurements of cylindrical and conical objects, and studies to express in his drawing the foreshortening of such objects.

During the remaining years, he progresses to more difficult work under the same general heads. In constructive

drawing, he studies sections and developments, and learns to do careful work with rule and compass. In model drawing, he advances to rectangular objects, studying the convergence of their edges and the foreshortening of their sides: he arranges and draws simple groups of objects.

Throughout the whole course, he has been studying, in their proper order, beautiful, historic, and natural forms. A due proportion of time has been given to the arranging of units of design to form new and pleasing combinations; and memory and dictation lessons have been given at regular intervals.

If it be the object of a report to give the public a true idea of the subject in hand perhaps I may here venture to correct a few false impressions. One mistaken idea is, that the clay modelling pursued in the primary classes is intended as a little course in sculpture,—that the infant hand is being prepared for future dexterity in the plastic art. The clay work is employed merely as a means toward assimilating ideas of form. It takes advantage of that natural human tendency, in the acquiring of knowledge, to supplement the information obtained through one sense by that given through another. The ‘Come, let me clutch thee’ of Macbeth is the natural cry of us all. That child who has touched, handled, modelled spheres and cubes has an intimate knowledge of these forms that mere seeing or drawing could never give. Having once tried to make a certain shape in the round, his conception of that shape is ever after more clearly cut.

Another false idea is this: that the chief end of drawing is the production of pretty figures in a drawing book. With many teachers, even excellent teachers, the worship of the drawing book fetich amounts to a separate cult by itself. The struggle for a fair clean page too often cramps the child’s hand and distracts his mind from the higher object of the

lesson. Not that careless work should for one instant be tolerated. It is far better for the pupil's moral, mental, and manual development that he should fold his hands rather than draw one line automatically, or with the mind working or playing elsewhere. I firmly believe that the only way to draw is to draw as if drawing were the one thing in life that counts. But in drawings, there should be a higher aim than that of producing figures that look well in the drawing-book.

Many careful parents have had doubts as to the utility of scissors in connection with drawing. The advantages of paper-cutting are these. First, it gives a certain freedom in expression. The pupil is no longer painfully conscious of trying to make a line which may possibly be too light or too dark to suit his teacher: anxiety as to technique being laid aside, he gives his whole mind to the characteristics of the form. This form is detached by him before his eyes; he views it as a tangible whole; it claims his interest. Again, in the study of design, the cutting of units out of colored paper gives the best possible opportunity to discuss their merits and demerits, and experiment upon different arrangements; and the grouping and pasting of these units upon the enclosing form affords excellent training in manual dexterity.

In each grade the pupil has been required during the year to construct at least two simple inexpensive objects, the forms being based upon the models studied by the class. In the lower grades, this work has been carried out chiefly by means of clay modelling and paper cutting. The child moulds hats and muffs and ginger snaps, and cuts out squares, and oblongs and natural leaves.

On reaching the grammar grades, he attempts boxes, card-receivers, scrap-bags, and a multitude of objects, in making which the girls have an opportunity to practise needle-work, the boys, wood carving, and all to display skill and taste. In most

cases the material has been cheerfully furnished by the pupil. Rich material, like plush and silk, is not desired. A workbox made of card-board covered with a tasteful calico or cretonne is more satisfactory than a similar article reproduced in velvet or plush, particularly if some over zealous aunt or cousin has done most of the work. It is earnestly desired that each constructed article be simple, useful, and the child's own work: it should cost little and be worth much.

One of the best means of developing the æsthetic faculty is a study and appreciation of nature. The children of our city are especially blest in having before their eyes during a large part of the year, countless beautiful specimens of Nature's handiwork that may be had for the asking. If the apple blossom and the maple leaf were from the hand of man rather than of nature,—if they were duly entered according to act of Congress, and stocked by the thousand in the publishers' warehouses, we should doubtless be at great pains to include them in our educational supplies. The study of plant forms does much to develop in the child ideas of beauty, symmetry, proportion, harmony, variety. For most children, an ivy leaf will do more than could all the Metopes of the Parthenon. That which lives and grows has its peculiar charm: the boy who goes to sleep over the model drawing of a cone, frequently becomes impassioned over sketching a carrot. The geometry of nature renders enduring the geometry of science; the quince blossom lends a charm to the pentagon.

In planning this eight years' course of form study the aims have been these:

1. To teach the child such principles of drawing as shall be generally useful to the man and the woman, rather than particularly useful to the worker in some special handicraft.
2. To teach these principles of natural methods, taking

advantage of the child's own instinctive movements toward knowledge.

3. To teach these principles not simply as an end,—not simply as a means; but to let each new lesson be both a unit in the little sum of the child's knowledge, and a factor toward his power to gain understanding: in short, to make each subject taught give the mind both food and exercise.

4. To enlarge the child's sense of responsibility by causing him first to reason for himself, and secondly to act upon the result of his reasoning; to increase his conscientiousness by demanding of him not only that common honesty which prevents us from making a wrong use of another's resources, but also that finer honesty which compels us to make the best use of our own; and not least of all, to develop his love and reverence of God and nature by a study of some few of the myriad forms of beauty that are always with us."

Evening Schools.

The number of evening schools maintained during the past season was two—one for females at the Bigelow school house, and one for males and females at the Jackson school house. They were in session 30 evenings, beginning on the 15th of October and closing on the 21st of December.

The whole number of different pupils enrolled in the Bigelow school was 39; in the Jackson, 197. The total enrolment was 236; the average attendance in the Bigelow school was 12; in the Jackson, 45. The total average attendance was 57. The percentage of attendance was 24.1.

Of the whole number in attendance, 30 pupils—5 in the Bigelow, and 25 in the Jackson—were present from 20 to 29 evenings each; 35 pupils—8 in the Bigelow and 27 in the Jackson—were present less than 20 evenings each; 58 pupils—10 in the Bigelow and 48 in the Jackson—were present less than

ten evenings each; and 113 pupils—16 in the Bigelow and 97 in the Jackson—were present less than five evenings each.

The age of the pupils ranged from 15 to 35 years.

The whole number of teachers employed was 8; two at the Bigelow, and six at the Jackson.

The studies pursued were reading, spelling, writing, arithmetic, history, bookkeeping, and mechanical drawing.

The cost of the evening schools during the present school year, was \$620.30. Of this amount, \$431.50 was expended for teachers' salaries, \$45.00 for pay of janitors, and \$96.45 for incidentals. The cost per pupil, based upon the total average attendance, was \$10.88.

In my last annual report I discussed the subject of evening schools at considerable length, calling the attention of the board to what seemed to me to be defects in their organization and in the public statutes relating to them. A further study of the subject confirms me in the belief that the whole matter should receive most careful consideration. I beg leave, therefore, again to urge the subject upon the attention of the Board, and, quoting from my report of last year, to recommend "that chapter 174, Acts of 1883, giving authority to towns and cities to maintain evening schools, be made permissive instead of compulsory, and that the limit of age be fixed at fourteen instead of twelve years, in order that it may be in harmony with the general school laws in regard to attendance. I would also recommend that the Board take measures to secure the adoption of these amendments.

The changes suggested are based upon two propositions: first, that the State fulfils its whole duty when it provides that every youth between the ages of eight and twenty-one years shall be educated to such an extent as will fit him properly to discharge the duties of citizenship; second, that in doing this work nothing should be left to an evening school that can be better

and more economically done in a day school." In my judgment, the day school should be supplemented, not by the evening school, but by the public library and the reading room.

Mid-Year Promotion.

The whole number of mid-year promotions during the past year was 152. Of the pupils promoted all but twenty-three secured a second promotion at the close of the year.

The plan of mid-year promotions has been in operation in our schools four years. Its chief object is to secure the advance of the pupils from grade to grade according to his ability to do the work. Its success has varied with the varying conditions that have attended its execution. In many of the schools the teachers, fully comprehending its scope, and thoroughly imbued with its spirit, have given it the impulse of their faith and enthusiasm. In those schools it has accomplished its object beyond my expectation. In other schools its success has been less pronounced. This is not surprising in view of the fact that it is a radical innovation upon long established methods of administration, and that it requires great care and vigilance on the part of those who execute it. The general result, however, has been quite satisfactory.

Other advantages also are resulting. It is helping to make our school system more flexible, more elastic, more practical, and, consequently, more popular. I know of no other change in the administration of our schools of late years that has been so generally commended. The execution of this plan, the division of the primary grades into sections of from ten to fifteen pupils each, and the instruction of the higher grades in sections instead of classes lead the teacher to constantly study the condition and needs of the individual pupil. In other words, the individual, not the class, is made the unit to whose wants the teacher adapts her instruction, and for whose im-

provement she comes to feel a personal responsibility. Indeed, the whole spirit of the school undergoes a marked change. Stimulation takes the place of repression, activity and zeal take the place of torpor and indifference, hope takes the place of discouragement, the crowding of the lower grades by reason of the aggregation of those pupils who are repeating their work for the second or third time is to a great extent avoided, and the advance of the pupils from section to section and grade to grade is made easy, natural, and rapid. In proof of this statement I need only cite the facts as shown by the statistics of 1884 and 1888. In 1884 the primary grades contained 41.4 per cent. and the grammar grades 47.9 per cent. of the total enrolment. In 1888 the primary grades had fallen to 35.9 per cent. and the grammar grades had increased to 52.9 per cent. of the total enrolment. The high school grades also show a gain of six-tenths of one per cent.

Although there are no mid-year promotions in the high school, yet the advantages of the plan are secured by other means to the pupils in the general and Institute courses—to those in the general course by the liberal extension of the elective system, the number of electives allowed to each pupil being determined solely by his ability to do the work; to those in the Institute course by arranging the work of four years in such a manner that pupils may complete it in three years. Of the eight graduates of this school who were admitted to the Institute in June last, four completed the work in three years.

I know of no reason why the classical course may not be so modified as to secure similar advantages to those who are preparing for college. For this purpose, I recommend that this course be extended to five years, and that it be so arranged that the work may be completed in four years, the time in each case to depend upon the ability of the pupil and the choice of

the parents. With such an adjustment of the work pupils of greater mental and physical maturity may complete the course in four years, while the less mature may take the longer course of five years. Most of the large preparatory schools of the State, on account of the higher and broader requirements for admission to the colleges, have already lengthened the classical course to five years; but they have not, so far as I know, incorporated into it the feature that is here recommended. The adoption of this feature will enable the high school to meet more fully the manifold demands that are made upon it, and will give to our school system more of symmetry and completeness.

Graduates of the Schools.

The number of diplomas awarded in the several grammar schools was as follows: Bigelow 42, Adams 22, Claflin 17, Pierce 38, Williams 17, Hamilton 8, Prospect 12, Hyde 16, Mason 46. The whole number was 218.

The number of high school certificates awarded in the several grammar schools was as follows: Bigelow 40, Adams 20, Claflin 17, Pierce 37, Williams 17, Hamilton 8, Prospect 12, Hyde 14, Mason 44. The whole number was 209.

The number of pupils graduated from the high school was 82. Of these 32 had completed the general course, 25 the classical course, 12 the Institute course, and 13 the mercantile course.

The number of graduates of the high school who took the final examination for admission to the colleges and the Institute of Technology in June last was 25: at Harvard 7, at Amherst 4, at Boston University 4, at Yale 1, at Vassar 1, at the Institute of Technology 8. Seventeen were admitted without conditions, one was conditioned in English, two in algebra, one in German, two in French, one in Latin, one in

Greek, one in Latin prosody, and two in Greek composition.

One of the applicants at Harvard received honors in four subjects:—advanced Latin, advanced Greek, French, and English; one received honors in three subjects:—Latin composition, Greek composition, and geometry; another received honors in three subjects:—Latin composition, Greek composition, and ancient history; one received an honor in Greek composition; and one received an honor in Greek.

One of the applicants at the Boston University received an honor in Latin and another received an honor in English.

The whole number of conditions received in the final examinations was 11; the whole number of honors was 14.

The number admitted by certificate was 2; at Smith 1 and at Wellesley 1.

The number of pupils of the high school who took the preliminary examinations was 24; at Harvard 8, at Vassar 2, at Boston University 1, at Yale 1, at Amherst 2, at the Institute of Technology 10. Fifteen passed without conditions, one was conditioned in physics, one in Latin, two in ancient history, two in English, three in geometry, two in Greek, and one in Greek grammar. Two of the applicants at Harvard received one honor each in physics, one received honors in two subjects, ancient history and Greek, and one at Boston University received honors in two subjects, Cæsar and Cicero.

The whole number of conditions received in the preliminary examinations was 12; the whole number of honors was 6.

Supervision of the Schools.

During the past year I have given the schools the closest supervision that my time and strength would allow. Besides the special work assigned to me from time to time by the Board and by the standing committees, and the preparation

of six monthly reports and my annual report, I have made one examination of every primary and grammar class in reading, and have examined some classes from two to five times each. I have also made twelve written examinations of grades three to nine, and several oral and written examinations of grades one and two.

I have made between six and seven hundred visits to the schools, have visited forty-six towns and cities in search of teachers, and for this purpose have travelled a little more than two thousand miles.

I have also attended twelve meetings of the Board and thirty meetings of standing committees, and have held thirty meetings of teachers.

Saturday of each week has been given chiefly to the purchase and distribution of supplies.

The rest of my time has been given to personal interviews with teachers and parents relating chiefly to the details of instruction and discipline.

The calling of meetings of the Board, of standing committees, and of teachers; the conduct of the general correspondence; the tabulating of the reports of the several schools, and the preparation of the statistical tables to accompany the annual report; the preparation of orders for books and other supplies, and the auditing of bills for the same; the keeping of the book accounts with the several masters; the preparation of the monthly pay-rolls; the hektographing of questions for written examinations; and the numerous details incident to the routine work of the office has received the patient and watchful attention of the assistant secretary.

I make this detailed statement of the work of the department, to the end that the Board, being in possession of full information in regard to it, may, from time to time, by

direction and suggestion improve its administration and increase its efficiency and usefulness.

It gives me pleasure to bear testimony to the faithfulness, zeal, and enthusiasm of the teachers in their efforts to carry forward the work of the schools during the past year. Their careful and intelligent co-operation has helped to lighten my labors and render them more effective. For their thoughtful and kindly spirit towards me personally I return my sincere thanks.

I also wish to express to the patrons of the schools my appreciation of their goodwill and their many courtesies, and to the members of the Board my thanks for their constant and generous sympathy and support.

THOMAS EMERSON,

Superintendent of Schools.

NEWTONVILLE, October 23, 1889.

APPENDIX.

STATISTICS IN DETAIL.

TABLE I.—Number of persons in the city between five and fifteen years of age, May 1, 1881-89, by wards.

WARDS.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	Increase.	Decrease.
I. . .	453	463	512	541	527	545	582	618	642	24	-
II. . .	603	645	699	705	705	717	732	768	795	27	-
III. . .	449	506	519	548	531	594	598	617	658	41	-
IV. . .	523	562	554	567	593	602	599	629	640	11	-
V. . .	436	470	460	464	423	480	486	532	553	21	-
VI. . .	494	549	558	559	560	559	601	608	621	13	-
VII. . .	294	263	262	274	272	288	295	315	293	-	22
Totals . .	3,252	3,458	3,564	3,653	3,611	3,755	3,893	4,087	4,202	137	22

TABLE II.—Number of rooms, halls, sittings, pupils, teachers, and number of pupils to a teacher in each school, May 1, 1889.

SCHOOLS.	Rooms Occupied.	Rooms Unoccupied.	Halls.	Sittings.	Number of Pupils.			Number of Teachers.	Number of Pupils to a Teacher.
					Girls.	Boys.	Total.		
High	17	0	0	567	213	181	394	12	32.8
Bigelow	8	0	1	381	191	148	339	8	42.5
Underwood	4	0	0	194	80	97	177	4	44.2
Lincoln	2	0	0	96	25	51	76	2	38
Elliott	4	0	0	193	76	69	145	4	36
Jackson	5	1	0	245	98	127	225	4	45
Adams	6	0	0	280	116	132	248	5	41.3
Clafin	6	0	0	234	126	105	231	6	38.5
Pierce	6	0	0	265	119	98	217	6	36.2
Davis	4	0	0	202	68	85	153	4	38.2
Franklin	4	0	0	208	75	79	154	4	38.5
Barnard	3	1	0	147	67	61	128	3	42.7
Williams	8	0	0	370	147	155	302	8	37.8
Hamilton	4	0	1	161	53	62	115	4	28.8
Prospect	6	2	1	273	114	113	227	6	37.8
Hyde	6	0	0	288	118	109	227	6	37.8
Mason	7	1	1	314	157	130	287	7	41
Rice	4	0	0	209	81	105	186	4	46.2
Thompsonville	1	1	0	49	11	25	36	1	36
Oak Hill	1	1	0	36	7	6	13	1	13
Totals	106	7	4	4,712	1,942	1,938	3,880	101	38.4

TABLE III.—Number of pupils of different ages in each school, May 1, 1889.

Schools.	Under 5 years.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to 12.	12 to 13.	13 to 14.	14 to 15.	Over 15.
High												
Bigelow	0	19	27	45	46	32	38	47	66	2	24	367
Underwood				12	10	27	11	1	1	57	51	44
Lincoln	2	11	9		6	17	12	8	1	0	0	0
Elliot							19	34	23	23	15	8
Jackson	1	51	43	38	26	26	20	6	7	6	1	0
Adams	0	8	23	22	20	28	22	23	24	26	25	23
Claffin	1	15	11	25	25	15	22	18	27	29	26	17
Pierce							10	34	49	47	44	32
Davis	0	10	40	24	22	12	19	14	7	4	1	0
Franklin	1	13	12	22	22	21	24	14	15	7	1	2
Barnard	0	4	10	18	26	19	21	16	9	4	0	1
Williams	2	15	19	23	24	40	41	30	29	29	34	16
Hamilton	0	12	10	11	11	15	12	10	16	13	3	2
Prospect	2	20	30	31	18	18	26	16	23	22	12	9
Hyde	0	15	9	25	28	18	28	19	18	29	22	16
Mason					5	25	35	45	47	74	27	29
Rice	0	20	56	54	16	25	14	1	2			
Thompsonville	0	11	11	6	3	1	2	0	0	2	1	0
Oak Hill	0	0	2	2	1	3	1	1				
Totals	9	216	312	348	313	354	381	337	365	374	287	566

TABLE IV.—Semi-quarterly attendance, etc., by schools, for the year ending June 30, 1889.

SCHOOLS.	I.					II.					III.					IV.				
	Average Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.	Average Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.	Average Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.	Average Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.
High	425.6	407.4	95.7	97	0	429.4	407.2	94.5	165	0	416.9	385.0	92.0	189	0	413.1	386.0	93.3	230	0
Bigelow	348.0	336.5	96.7	12	0	353.0	339.2	96.0	31	1	346.7	327.1	94.2	24	0	348.5	331.1	94.9	19	0
Underwood	174.2	165.1	94.7	37	0	180.4	167.4	92.8	18	0	172.7	153.5	89.1	47	0	170.7	157.9	92.5	49	0
Lincoln	64.0	60.2	93.9	8	0	68.3	63.0	93.1	8	0	63.7	63.9	93.0	20	0	71.0	67.1	94.4	8	0
Elliot	144.0	133.6	92.6	5	0	139.7	126.5	90.2	2	0	132.6	120.8	90.7	5	0	130.7	113.8	91.8	1	0
Jackson	214.9	198.1	92.2	20	0	210.4	195.3	92.9	11	1	208.1	189.5	91.3	19	0	215.2	196.6	91.4	24	2
Adams	232.9	224.8	96.3	3	2	241.4	229.4	94.8	7	0	241.9	228.9	94.5	16	1	244.7	224.9	92.0	11	1
Clafin	211.7	200.0	94.2	27	3	222.6	211.8	95.0	21	5	221.5	205.0	92.5	28	0	218.5	201.2	92.1	17	2
Pierce	226.9	222.5	99.7	5	4	229.5	223.4	97.3	9	7	226.6	217.6	96.1	11	3	221.9	211.5	95.2	10	0
Davis	140.5	134.3	95.7	3	0	141.9	135.1	95.1	6	1	144.0	134.4	93.3	12	0	146.1	135.3	92.4	2	1
Franklin	149.4	141.3	94.5	6	1	150.0	142.1	94.8	18	5	146.7	135.8	92.5	20	7	143.2	133.3	92.9	9	9
Barbard	115.5	109.8	94.7	9	0	118.5	109.7	92.1	2	7	117.4	108.3	91.8	2	1	118.2	111.6	94.2	5	1
Williams	282.0	265.6	94.0	10	0	289.2	270.8	93.7	15	1	291.6	268.6	92.2	6	1	292.4	270.3	92.5	9	0
Hamilton	110.4	107.3	96.6	8	2	113.0	108.5	95.9	4	1	114.3	107.3	93.6	12	0	112.0	107.0	95.3	3	1
Prospect	205.1	193.9	95.2	21	2	209.3	199.1	94.6	38	4	211.0	199.7	94.5	19	0	211.6	198.4	93.9	14	1
Hyde	208.8	194.9	93.4	19	3	212.1	196.6	92.5	47	2	210.7	189.0	89.5	9	1	217.0	200.3	92.4	38	3
Mason	276.6	260.8	94.2	30	1	280.0	265.2	94.7	28	1	285.0	267.5	93.8	21	0	286.7	270.7	94.6	16	1
Rice	162.9	144.9	89.2	14	1	170.3	152.0	89.7	4	0	172.1	147.6	86.6	27	1	167.3	148.9	89.6	22	0
Thomsonville	25.6	23.0	89.8	4	0	26.0	24.0	92.2	4	0	27.0	25.4	93.9	2	0	26.6	23.9	89.9	2	0
Oak Hill	19.0	18.5	97.5	0	0	18.0	17.3	96.1	1	0	18.0	15.6	87.6	7	0	17.9	16.8	94.2	3	0

TABLE IV. (Concluded).—Semi-quarterly attendance, etc., by schools, for the year ending June 30, 1889.

SCHOOLS.	V.						VI.						VII.						VIII.						
	Average Whole Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.	Average Whole Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.	Average Whole Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.	Average Whole Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.	Average Whole Number.	Average Attendance.	Percentage of Attendance.	Cases of Tar-diness.	Cases of Cor-poral Punishment.
High . . .	405.9	372.4	91.8	201	0	401.1	365.4	91.1	232	0	385.8	346.1	89.1	212	0	372.2	338.7	91.0	217	0	372.2	338.7	91.0	217	0
Bigelow . .	346.3	322.8	93.3	10	0	337.0	310.9	92.2	9	0	326.3	300.0	92.2	16	0	304.4	286.9	94.0	11	0	304.4	286.9	94.0	11	0
Underwood .	166.8	148.8	89.2	25	0	169.1	157.8	89.3	25	0	165.9	146.1	87.9	28	0	157.2	144.1	91.5	20	0	157.2	144.1	91.5	20	0
Lincoln . .	69.5	63.3	91.1	14	0	70.5	64.1	91.1	7	0	74.8	69.2	92.4	6	0	74.3	68.2	91.9	11	0	74.3	68.2	91.9	11	0
Elliot . . .	149.1	135.6	90.9	5	0	145.9	128.7	88.2	3	0	145.7	129.2	88.5	8	0	139.8	128.2	91.7	8	0	139.8	128.2	91.7	8	0
Jackson . .	193.8	174.6	90.1	16	1	200.1	177.6	88.7	2	0	217.0	193.8	89.6	17	2	212.3	193.2	91.0	18	1	212.3	193.2	91.0	18	1
Adams . . .	242.9	228.4	93.9	8	3	246.3	228.7	92.9	3	0	242.2	223.0	92.1	4	0	219.1	201.2	91.5	5	0	219.1	201.2	91.5	5	0
Clarlin . .	205.6	186.2	90.0	19	8	198.2	183.6	92.4	12	1	223.2	211.6	94.8	18	1	215.6	202.8	94.1	7	0	215.6	202.8	94.1	7	0
Pierce . . .	137.3	126.5	91.9	2	11	216.4	205.9	95.1	1	0	213.6	203.7	95.5	3	0	174.5	168.1	96.2	8	0	174.5	168.1	96.2	8	0
Davis . . .	137.3	126.5	91.9	2	12	143.8	133.7	92.9	1	0	150.6	142.0	94.3	6	0	147.2	138.3	94.1	8	0	147.2	138.3	94.1	8	0
Franklin . .	138.9	128.9	92.5	13	14	139.1	130.9	93.9	6	2	151.8	138.2	91.2	15	0	151.2	140.2	92.7	18	1	151.2	140.2	92.7	18	1
Barnard . .	116.6	109.0	93.2	0	1	121.1	114.0	94.2	1	1	127.3	119.1	93.6	4	2	120.4	112.1	92.9	5	1	120.4	112.1	92.9	5	1
Williams . .	292.1	268.9	92.0	18	0	289.9	266.6	91.8	14	0	290.7	263.4	92.5	15	0	286.2	270.6	93.8	18	0	286.2	270.6	93.8	18	0
Hamilton . .	109.1	104.2	95.3	0	2	111.1	106.9	96.3	5	1	110.5	102.7	92.8	0	2	107.9	103.5	95.9	7	0	107.9	103.5	95.9	7	0
Prospect . .	215.8	199.8	92.5	30	0	217.3	198.1	91.4	141	1	218.6	201.1	92.2	18	0	219.6	240.0	91.8	25	1	219.6	240.0	91.8	25	1
Hyde . . .	220.4	201.5	91.3	51	2	221.7	200.8	90.6	57	4	224.3	202.3	90.3	44	0	217.6	200.9	91.9	32	1	217.6	200.9	91.9	32	1
Mason . . .	284.2	263.3	92.6	12	0	285.9	262.0	91.6	7	1	274.6	249.1	90.7	20	0	258.6	237.7	91.7	16	0	258.6	237.7	91.7	16	0
Rice . . .	161.4	139.2	86.5	22	0	170.5	155.1	91.1	16	0	180.0	157.2	87.5	17	1	172.1	151.2	88.0	7	1	172.1	151.2	88.0	7	1
Thompsonville	31.1	28.6	91.8	0	0	35.0	32.7	93.5	2	0	34.8	31.8	91.3	3	0	34.8	31.7	91.1	1	0	34.8	31.7	91.1	1	0
Oak Hill . .	17.8	16.0	89.8	0	0	15.4	14.0	91.0	0	0	10.2	6.4	59.0	0	0	10.2	8.5	82.6	9	0	10.2	8.5	82.6	9	0

TABLE V.—Total enrolment, etc., by schools for the year ending
June 30, 1889.

SCHOOLS.	Total Enrolment.			Average Whole Number.	Average Attend- ance.	Percent. Attend- ance.	Cases of Tardi- ness.	Cases Corporal Punish- ment.
	Boys.	Girls.	Total.					
High . . .	204	231	435	406.2	376.0	92.3	1612	0
Bigelow . .	163	209	372	338.8	319.2	94.2	119	1
Underwood .	111	90	201	169.6	154.2	90.9	262	0
Lincoln . .	53	28	81	70.3	65.2	92.9	82	1
Eliot . . .	85	82	167	140.9	127.8	90.6	371	0
Jackson . .	146	119	265	209.0	189.8	90.9	127	7
Adams . . .	136	129	265	238.9	223.7	93.5	57	7
Claffin . . .	114	135	249	214.6	200.3	93.1	158	20
Pierce . . .	105	130	235	216.0	207.7	96.3	65	25
Davis . . .	90	75	165	143.9	134.9	93.7	40	4
Franklin . .	86	81	167	146.3	136.3	93.1	102	41
Barnard . .	68	72	140	119.4	111.7	93.3	28	15
Williams . .	171	170	341	289.5	268.8	92.8	105	2
Hamilton . .	65	62	127	111.0	105.9	95.2	49	9
Prospect . .	124	137	261	213.5	199.5	93.6	306	6
Hyde . . .	118	132	250	216.6	198.3	91.5	297	16
Mason . . .	138	161	299	278.9	259.5	93.0	150	4
Rice	113	90	203	169.6	149.5	88.5	166	4
Thompson's	25	12	37	30.1	27.6	91.7	16	0
Oak Hill . .	10	13	23	15.6	14.1	87.2	19	0
Totals . .	2125	2158	4283	3738.7	3570.0	92.4	3797	162

TABLE VI.—Number of pupils and their average age, by grades, in September, 1888.

GRADES, SCHOOLS.	I.			II.			III.			IV.			V.			VI.		
	Av. Age.			Av. Age.			Av. Age.			Av. Age.			Av. Age.			Av. Age.		
	No. of Pupils.	Yrs.	Mos.	No. of Pupils.	Yrs.	Mos.	No. of Pupils.	Yrs.	Mos.	No. of Pupils.	Yrs.	Mos.	No. of Pupils.	Yrs.	Mos.	No. of Pupils.	Yrs.	Mos.
High	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bigelow	73	6	4	52	7	5	54	8	8	60	9	10	90	11	3	69	12	4
Underwood	26	6	11	18	7	10	10	9	9	12	9	11	..	..	..	..	..	..
Lincoln	..	..	..	..	..	..	..	..	..	43	10	4	34	11	1	28	12	..
Eliot	97	6	5	67	7	10	42	9	3	19	9	1	20	10	7	..	..	..
Jackson	36	6	1	21	7	4	24	8	4	36	9	8	20	10	..	41	11	3
Adams	30	6	2	23	7	3	22	8	4	31	10	4	27	11	1	32	12	5
Clafin	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	110	11	9
Pierce	39	5	11	30	7	5	26	8	10	22	10	5	27	10	..	..	..	..
Davis	33	6	3	43	8	2	16	9	1	24	10	9	43	11	0	..	..	..
Franklin	25	6	7	29	8	5	23	9	0	22	19	8	24	10	0	..	..	..
Barnard	37	6	9	34	7	4	31	9	5	35	9	8	46	11	4	46	11	8
Williams	19	6	3	15	7	4	18	9	5	11	9	10	6	11	6	13	11	7
Hamilton	33	5	6	30	7	2	32	8	5	19	9	2	23	10	1	27	11	11
Prospect	30	6	4	19	7	7	25	8	8	25	9	5	39	11	5	26	11	7
Hyde	..	..	..	..	..	..	..	..	..	61	9	11	61	11	5	43	11	11
Mason	68	6	5	39	7	1	57	8	10	..	..	..	..	..	..	..	..	..
Rice	..	5	6	18	8	0	..	..	..	..	..	..	..	..	..	..	..	..
Thompsonville	8	5	6	2	7	4	..	..	..	..	..	..	..	..	..	..	..	..
Oak Hill	4	6	10	..	7	0	4	..	..	5	9	5	..	..	..	4	11	10
Totals	558	6	3	440	7	7	384	8	10	425	9	9	440	11	0	439	11	10

TABLE VI. (Concluded).—Number of pupils and their average age by grades in September, 1888.

GRADES.	VII.			VIII.			IX.			X.			XI.			XII.			XIII.			Total Number of Pupils.
	No. of Pupils.	Yrs.	Av. Age.	No. of Pupils.	Yrs.	Av. Age.	No. of Pupils.	Yrs.	Av. Age.	No. of Pupils.	Yrs.	Av. Age.	No. of Pupils.	Yrs.	Av. Age.	No. of Pupils.	Yrs.	Av. Age.	No. of Pupils.	Yrs.	Av. Age.	
High	46	13	11	45	13	8	45	14	5	140	15	4	118	15	10	109	16	10	64	17	11	431
Bigelow	1																					355
Underwood																						179
Lincoln	24	13	2	17	13	11																66
Elliot																						146
Jackson	24	12	11	16	13	11	23	14	11													225
Adams	19	12	11	17	13	10	18	14	6													241
Clafin	49	12	11	38	13	4	38	14	3													219
Pierce																						235
Davis																						144
Franklin																						159
Barnard																						123
Williams	34	13	8	13	14	3	17	14	4													293
Hamilton	11	12	8	11	12	11	8	14	5													112
Prospect	18	12	8	20	13	9	12	14	1													214
Hyde	17	12	6	19	13	9	14	14	4													214
Mason	42	11	5	27	13	3	51	14	1													285
Rice																						164
Thompsonville																						26
Oak Hill	2	14	3	1	12	5																22
Totals	286	12	10	224	13	6	226	14	4	140	15	4	118	15	10	109	16	10	64	17	11	3853

TABLE VII.—Annual enrolment in each grade in September, 1880-88.

DATE.	GRADES.													Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	
September, 1880	464	372	376	321	296	342	260	221	162	104	97	60	43	3,118
September, 1881	530	386	381	394	270	312	311	211	150	114	58	77	37	3,231
September, 1882	510	436	405	353	403	237	266	225	180	104	92	51	49	3,311
September, 1883	514	454	436	398	369	298	210	183	166	125	78	70	40	3,341
September, 1884	605	467	436	412	411	315	260	185	165	145	113	77	54	3,645
September, 1885	590	425	425	469	401	337	256	243	140	140	131	92	61	3,703
September, 1886	559	434	415	437	436	339	298	218	183	154	125	113	69	3,780
September, 1887	555	425	407	405	434	395	245	244	192	135	132	99	76	3,744
September, 1888	558	440	384	425	440	439	286	224	226	140	118	109	64	3,853

TABLE VIII.—Percentage of the total annual enrolment in each grade in September, 1880-88.

DATE.	GRADES.												Total.	
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.		XIII.
September, 1880	14.9	11.9	12.1	10.3	9.5	11.0	8.3	7.1	5.2	3.3	3.1	1.9	1.4	100
September, 1881	16.4	11.9	11.8	12.2	8.4	9.7	9.6	6.5	4.6	3.6	1.8	2.4	1.1	100
September, 1882	15.4	13.2	12.2	10.7	12.2	7.2	8.0	6.8	5.4	3.1	2.8	1.5	1.5	100
September, 1883	15.7	13.6	13.1	11.9	11.0	8.8	6.3	5.2	5.0	3.7	2.4	2.1	1.2	100
September, 1884	16.6	12.8	12.0	11.3	11.3	8.6	7.1	5.1	4.5	4.0	3.1	2.1	1.5	100
September, 1885	15.9	11.5	11.5	12.6	10.8	9.0	6.9	6.6	3.8	3.8	3.5	2.5	1.6	100
September, 1886	14.8	11.2	11.0	11.6	11.5	9.0	7.9	5.8	4.8	4.1	3.5	3.0	1.8	100
September, 1887	14.8	11.4	10.9	10.8	11.6	10.6	6.5	6.5	5.1	3.6	3.5	2.7	2.	100
September, 1888	14.5	11.4	10.	11.	11.4	11.4	7.4	5.8	5.9	3.6	3.1	2.8	1.7	100

TABLE IX.—Distribution of pupils in High School by grades and courses of study.

GRADES.	GENERAL.		CLASSICAL.		MERCANTILE.		INSTITUTE.		SPECIAL.		TOTAL.		Total.
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	
X. . . .	28	53	19	25	0	0	24	0	0	0	71	78	149
XI. . . .	17	48	27	17	0	0	8	0	0	1	52	66	118
XII. . . .	18	26	21	19	5	5	12	0	0	1	56	51	107
XIII. . . .	7	23	14	13	1	0	6	0	0	0	27	37	64
Totals . .	70	150	81	74	6	5	28	0	0	2	206	232	438

HIGH SCHOOL GRADUATES.

Classical Course.

GERTRUDE ALCOTT BLAISDELL.	MARGARET SNOW WALLACE.
HELEN ESTELLE DEMERITT.	CHANDLER MATTHEWS BRAY.
HELEN GERTRUDE EAGER.	LEANDER COOLIDGE.
EDITH KIMBALL.	JOHN JERVIS CORNISH.
ELLEN MABEL LANGFORD.	JOHN ALEXANDER DUANE.
MARY WHITE MORTON.	ARTHUR ELMER HARTWELL.
STELLA LOUISE MILLER.	HAROLD HUTCHINSON.
MINNIE ADELAIDE NICHOLS.	ANDREW HAHN.
CLARA EMMA SHEPPARD.	WALTER AUGUSTUS LECOMPTE.
BESSIE NYE SOULE.	ALBERT HUTCHINSON PUTNEY.
ELIZABETH BELL SPAULDING.	LUTHER GORDON PAUL.
MYRA JOSEPHINE STONE.	WALTER LINCOLN SANBORN.
GEORGE FRANCIS WALES.	

General Course.

ISABEL NEWELL COLE.	HELEN PHILBRICK.
ALICE GERTRUDE COLBURN.	MAMIE PERRIN SOLIS.
MARY CUTLER.	CONSTANTIA WALDRON SMITH.
MARY ELLA COOK.	CARRIE AUGUSTA THORNDIKE.
NELLIE MAUDE FLINT.	MARY ALOYSIOUS LOUISE TAAFFE.
MARY BLANCHE FORBES.	ALICE AMELIA WARREN.
ANNIE DICKS HILLS.	ALICE BRADFORD WOODMAN.
EMMA CAROLINE HOLLIS.	SIDNEY SHEPPARD EMERY.
HATTIE HATCH HENRY.	WILLIAM HERBERT FOLSOM.
EMILIE FANNING HUNTER.	JAMES JOSEPH HARLEY.
FLORENCE ISABEL JOHNSON.	CARLTON WORT JUDKINS.
MABEL JOHNSON.	ALBERT WHITE LITTLE.
HARRIET MARGARET LESH.	FRANK HYMAN MOREHOUSE.
FLORA HAMLEN LUTHER.	GEORGE EVERETT McFARLIN.
MARY ANNE MARSHALL.	HARRY ALLEN PLYMPTON.
EDITH CARRIE NEWELL.	WILLIAM FITCH WARNER.

Institute Course.

EDMUND ENOS BLAKE.	FREDERICK HALE KEYES.
ALBERT HENRY ELDER.	EUGENE HOLMES MATHER.
EDWIN AVERY ELDER.	WALTER EDWIN NOBLE.
ARTHUR EDWIN FOWLE.	HENRY SMITH.
BENJAMIN WALDO HOBART.	CHARLES TEMPERLY.
CLARENCE HOYT HOLMES.	WILLIAM CORTELYON WHISTON.

Mercantile Course.

ELSIE BRAINERD.	FRANCIS JOHNSON BURRAGE.
FANNIE BRAINERD.	HARRY LANG BURRAGE.
EMILY ANDREW KAUPP.	EDMUND FOSTER CHISHOLM.
BERTHA ELIZABETH O'CONNOR.	SUMNER WITHINGTON EAGER.
FLORENCE MABEL STILES.	WILLIAM HENRY FANNING.
FLORENCE SUMNER.	FRED POMEROY HARVEY.

ROBERT ELLIS MANDELL.

TEACHERS AND SCHOOLS.

Names,	Salary.	Beginning of Service.	Name of School,
Edward J. Goodwin . . .	\$3,000	September 1887	High.
Ezra W. Sampson . . .	2,000	March . . 1870	"
S. Warren Davis . . .	2,000	January . 1881	"
Andrew J. George . . .	1,800	September 1887	"
George L. Chandler . . .	1,800	September 1887	"
Josie A. Davis . . .	900	September 1888	"
Marguerite W. Abbott . .	1,200	September 1888	"
Maybell P. Davis . . .	1,000	September 1881	"
Minerva E. Leland . . .	950	September 1887	"
Lida P. Underhill . . .	1,000	October . 1884	"
Emma F. Johnson . . .	950	January . 1887	"
Frances P. Owen . . .	950	September 1887	"
H. Chapin Sawin . . .	1,900	October . 1871	Bigelow.
Martha M. Bakeman . . .	750	September 1870	"
Annie E. George . . .	600	April . . 1883	"
S. Louise Shelton . . .	600	September 1875	"
Florence H. Griffin . . .	500	October . 1888	"
Emily J. Dyer . . .	600	November 1883	"
Mary R. Putney . . .	600	November 1885	"
Elizabeth Ayles . . .	600	September 1883	"
Charlotte E. Sewall . . .	750	June . . 1884	Underwood.
Ada L. Donkin . . .	600	January . 1884	"
Annie L. Wood . . .	600	January . 1877	"
Josephine W. Littlefield .	600	April . . 1871	"
Nellie B. Raud . . .	750	October . 1883	Lincoln.
Mary E. Wall . . .	600	December 1886	"
George G. Edwards . . .	1,900	March . . 1879	Eliot.
H. Augusta Millard . . .	750	September 1872	"
Ellen B. Prime . . .	600	January . 1886	"
Louise W. Clelland . . .	600	October . 1872	"
Eliza J. Lovely . . .	750	September 1880	Jackson.
Ella M. Donkin . . .	500	February . 1886	"
Martha A. Lovely . . .	550	September 1887	"
Lottie E. Stearns . . .	600	April . . 1874	"
Gertrude G. Tewksbury . .	600	September 1882	"
William A. Spinney . . .	1,900	September 1879	Adams.
Abbie I. Fiske . . .	750	September 1882	"
Sarah A. Whitney . . .	550	November 1887	"
Estella M. Haynes . . .	600	September 1873	"
Mary A. Wellington . . .	600	April . . 1884	"
Angelia A. Smith . . .	600	September 1883	"
Herbert F. Sylvester . . .	1,900	September 1882	Claflin.
Amie C. Merritt . . .	750	November 1886	"
Ellen M. Horrigan . . .	600	April . . 1884	"
Effie M. Herrick . . .	550	September 1887	"
Ellen S. Tewksbury . . .	600	September 1884	"
Lydia A. Brierly . . .	600	September 1874	"
Levi F. Warren . . .	1,900	September 1869	Pierce.
Sarah A. Warren . . .	750	April . . 1872	"
Nora Taft . . .	550	September 1887	"
Alice M. Small . . .	600	November 1888	"
Eliza E. Simmons . . .	600	April . . 1860	"
Helen H. Rogers . . .	600	September 1888	"
M. Alice Warren . . .	750	January . 1883	Davis.
Helen S. Tolman . . .	600	September 1883	"

TEACHERS AND SCHOOLS.—(Concluded.)

Names.	Salary.	Beginning of Service.	Name of School.
Alice M. Wormwood . .	\$550	September 1887	Davis.
Sarah E. Foster . . .	600	May . . . 1863	"
Elizabeth F. Paddock . .	750	September 1880	Franklin.
Alice M. Nelson . . .	500	September 1888	"
Clara H. Thompson . . .	600	October . 1885	"
Margaret A. Mague . . .	600	September 1882	"
Calista S. Wood	750	September 1874	Barnard.
Susan E. Copeland . . .	600	September 1872	"
Lizzie F. Jones	600	September 1874	"
John O. Godfrey	1,800	April . . . 1886	Williams.
Elizabeth A. Pinnock . .	750	September 1872	"
Harriette L. Batchelder .	600	March . . 1886	"
Mary Noble	600	November 1886	"
Florence L. Wilson . . .	500	November 1888	"
Dora A. Allen	600	September 1883	"
Edith A. Matteson . . .	600	September 1887	"
Ann B. Smith	600	September 1874	"
Luther E. Leland	1,900	May . . . 1858	Hamilton.
Anna G. Swain	750	September 1871	"
Ellen M. Leland	600	February . 1870	"
Hilma M. Ekman	600	September 1886	"
Charles E. Hussey	1,900	April . . 1884	Prospect.
Martha L. Perkins	750	May . . . 1866	"
Ella F. Crooker	600	November 1876	"
Lucy A. Haywood	600	September 1883	"
Linda M. Nickelson . . .	500	September 1888	"
Mary P. Fanning	600	October . 1873	"
George A. Moore	1,900	September 1882	Hyde.
Charlotte E. Cameron . .	750	March . . 1882	"
Harriet J. Brooks	550	September 1887	"
Gertrude Blackmar	600	December 1882	"
N. Grace Gould	600	February . 1885	"
Flora M. Stuart	500	January . 1889	"
Albert L. Harwood	1,900	September 1876	Mason.
Ellen S. Baker	750	April . . 1884	"
Anna C. Bush	600	December 1887	"
Maria F. Wood	600	September 1875	"
Mary Tenney	600	September 1873	"
Georgia Bucknam	600	June . . 1886	"
Roberta J. Hardie	600	September 1885	"
Mary E. Mason	750	September 1885	Rice.
Margaret Martin	600	September 1881	"
Adelaide L. Thompson . .	600	October . 1886	"
S. Emma Thompson	600	September 1887	"
Helen A. Davis	750	April . . 1878	Thompsonville.
Louise N. Burbank	750	September 1881	Oak Hill.
<i>Special Instructors.</i>			
George H. Benyon	400	October . 1887	Military Drill.
Horace M. Walton	1,500	September 1885	Vocal Music.
Adeline V. Pond	1,000	September 1888	Drawing.
Jennie E. Ireson	500	September 1879	Calisthenics.
Julia Grant	450	June . . 1883	Sewing.
Ellen L. Bond	450	June . . 1883	"
Sarah L. Dix	225	October . 1886	"
Martha M. Dix	180	September 1888	Special assistant.
Martin C. Laffie	300	April . . 1885	Truant Officer.

JANITORS.

HIGH SCHOOL.

JOHN CUMMINGS, Murray street, Newtonville.

BIGELOW AND UNDERWOOD SCHOOLS.

CHARLES R. YOUNG, 201 Washington street, Newton.

LINCOLN SCHOOL.

HONORAH SWEENEY, Pearl street, Newton.

ELIOT AND JACKSON SCHOOLS.

MARY WELCH, West street, Nonantum.

ADAMS SCHOOL.

MARY A. DELANEY, West street, Nonantum.

CLAFLIN SCHOOL.

JOHN DORNEY, Mill street, Newtonville.

PIERCE AND DAVIS SCHOOLS.

THOMAS JOHNSON, Prospect street, West Newton.

FRANKLIN SCHOOL.

BRIDGET COX, River street, West Newton.

BARNARD SCHOOL.

JOHN WOODY, Prospect street, West Newton.

WILLIAMS SCHOOL.

MARTIN WALSH, Melrose street, Auburndale.

HAMILTON SCHOOL.

JAMES H. BOIT, Grove street, Newton Lower Falls.

PROSPECT SCHOOL.

JOSHUA L. RANDALL, Eliot street, Newton Upper Falls.

HYDE SCHOOL,

JAMES C. NEWCOMB, Lincoln street, Newton Highlands.

MASON AND RICE SCHOOLS.

ALBERT C. MARSTON, Parkhurst street, Newton Centre.

THOMPSONVILLE SCHOOL.

JOHN A. HAHN, Florence street, Newton Centre.

OAK HILL SCHOOL.

WILLIAM E. WISWALL, Dedham street, Oak Hill.

INDEX.

ORGANIZATION OF SCHOOL COMMITTEE . . .	3
REPORT OF SCHOOL COMMITTEE	9
SECRETARY'S REPORT	21
SUPERINTENDENT'S REPORT	23
STATISTICS	49
HIGH SCHOOL GRADUATES	61
TEACHERS AND SCHOOLS	63
JANITORS	65



CITY OF NEWTON.

REPORT

OF THE

WATER BOARD

FOR THE YEAR ENDING DECEMBER 31, 1889.



NEWTON, MASS.,
NEWTON GRAPHIC PRESS,
1890.

THE NEWTON WATER WORKS.

ORGANIZATION FOR 1890.

WATER BOARD.

EDWARD W. CATE, *President.*

FRANCIS A. DEWSON.

LEVI C. WADE.

Alderman WM. F. HARBACH.

Councilman F. M. CREHORE.

J. C. WHITNEY . . . *Water Registrar and Clerk of Board.*

ALBERT F. NOYES *Engineer of Board.*

H. NELSON HYDE, JUN. *Superintendent.*

PAST BOARDS OF GOVERNMENT OF THE NEWTON WATER DEPARTMENT.

CONSTRUCTING COMMISSION.

1875-1878.

Hon. R. M. PULSIFER. Col. F. J. PARKER. Hon. R. R. BISHOP.

WATER COMMITTEES OF CITY COUNCIL.

1878.

Aldermen OTIS PETTEE and E. W. WOOD.

Councilmen J. WESLEY KIMBALL, NATHAN MOSMAN and G. E. PIKE.

1879.

Aldermen G. D. ELDRIDGE and E. R. SECCOMB.

Councilmen J. WESLEY KIMBALL, NATHAN MOSMAN and EDWARD
SAWYER.

1880.

Aldermen WILLIAM P. ELLISON and J. WESLEY KIMBALL.

Councilmen NATHAN MOSMAN, GEORGE E. WALES and E. W. CATE.

1881.

Aldermen WILLIAM P. ELLISON and J. WESLEY KIMBALL.

Councilmen NATHAN MOSMAN, E. W. CATE and H. A. INMAN.

1882.

Aldermen E. W. CATE and J. WESLEY KIMBALL.

Councilmen DAVID T. BUNKER, ALSON A. SMITH and FRED. W.
FREEMAN.

WATER BOARDS.

1883.

EDWARD W. CATE, FRANCIS J. PARKER, FRANCIS A. DEWSON,
Alderman J. WESLEY KIMBALL, Councilman FRED. W. FREEMAN.

1884.

EDWARD W. CATE, FRANCIS J. PARKER, FRANCIS A. DEWSON,
Alderman NOAH W. FARLEY, Councilman ALBERT F. UPTON.

1885.

EDWARD W. CATE, FRANCIS A. DEWSON, CHARLES FRED. CREHORE.
Alderman NOAH W. FARLEY, Councilman ALBERT F. UPTON.

1886.

EDWARD W. CATE, FRANCIS A. DEWSON, CHARLES FRED. CREHORE.
Alderman GEORGE PETTEE, Councilman GEORGE D. DIX.

1887.

EDWARD W. CATE, FRANCIS A. DEWSON, CHARLES FRED. CREHORE.
Alderman GEORGE PETTEE, Councilman GEORGE D. DIX.

1888.

EDWARD W. CATE, FRANCIS A. DEWSON, CHARLES F. CREHORE.
Alderman GEORGE PETTEE, Councilman EDMUND T. WISWALL.

1889.

EDWARD W. CATE, FRANCIS A. DEWSON, LEVI C. WADE.
Alderman WM. F. HARBACH, Councilman EDMUND T. WISWALL.

REPORT.

WATER BOARD OFFICE, CITY HALL,
WEST NEWTON, JAN. 31, 1890.

TO HIS HONOR, THE MAYOR, AND CITY COUNCIL OF THE CITY OF
NEWTON:—

The Water Board begs leave to submit the following report of the transactions of the Water Department for the year ending Dec. 31, 1889.

Membership of the Board.

At the close of the year 1888 Mr. Charles Fred Crehore and Alderman Pettee retired from the Board; the first having served for a period of four years and the latter having been a member since 1886. The place of Mr. Crehore was filled by the appointment of Hon. Levi C. Wade while Alderman Harbach succeeded to the vacancy caused by the retirement of Alderman Pettee.

Main Pipe.

The total length of main pipe laid during 1889 was 17,786 feet which makes a total of 90.2 miles of main pipe laid throughout the city.

Section 13 of the Water Ordinance requires that no main pipe shall be laid unless the application for it is accompanied by a written agreement guaranteeing, for at least five years,

an income equal to five per cent. upon the cost of the pipe laid. During the past years it has been the practice of the Board to require upon some extensions a guaranty extending over a greater period than five years. The opinion had been growing, however, for some time that such a practice should be discontinued and it will be remembered that your honorable body, at the suggestion of Alderman Harbach, passed an order which requested the Board to limit all guaranties to a period of five years. Such therefore will hereafter be the practice.

Service Pipes.

The number of service pipes laid during 1889 was 278, of which number 225 were for new supplies and 53 were for renewals of old services. The total number of services now in use is 4,203.

Meters.

The number of meters set during the past year was 209, making the total number in use throughout the city at the close of the year 2,708.

Condition of the Works.

A comparison of the analyses of water taken from different parts of the works, led the Board to believe that the purity of the water might be improved by a cleansing of the reservoir at Waban Hill. This reservoir has been in use since 1876 and the bottom and sides had become considerably coated with a deposit which it was found desirable to remove. Upon emptying the reservoir it was discovered that the check-valves, which were intended to regulate automatically the in-flow and out-flow of water, were defective and had probably not been acting for a number of years, if they had ever perfectly performed their duty. Check-valves of a new and

improved pattern were substituted for the old and imperfect ones and the reservoir is now in excellent condition.

At the time of the cleansing of the reservoir, the pipe system of the city was subjected to new tests and it was discovered that certain improvements in the system could and should be made. The Chestnut Hill territory had previously been supplied directly from the reservoir; a new pipe was laid by means of which this section of the city can now be supplied directly from the pipes. The arrangement of the force mains, at the pumping-station, was such that under certain conditions the supply of water might be cut off from the whole city. This was remedied by the laying of pipes, fitted with valves so arranged that it is now almost impossible for any accident, which does not totally disable the pumping station, to entirely cut off the city's supply.

High Service and Additional Supply.

These two subjects have engaged the attention of the Board during the last year to a very considerable extent. As will be remembered, the petition of Leverett Saltonstall and others for a high service was referred to this Board in the latter part of 1888. The Board immediately began a thorough investigation of the subject and made a report to the City Council March 25, 1889, a copy of which report is as follows:—

HIGH SERVICE SUPPLY.

To the Honorable the City Council of the City of Newton :

The Water Board to whom was referred the petition of Leverett Saltonstall and others for a "High Water Service" respectfully report as follows :

An examination of the petition, the signatures thereto and the endorsements thereon, shows that the question submitted to the Water Board for their consideration and report is a somewhat narrow one, being simply how to furnish an additional supply of water to certain citizens living in that part of the City of Newton ordinarily called Chestnut Hill. There are, however, other sections of the city than Chestnut Hill which would be greatly benefitted by a high water service and as this fact was well known to the members of the City Council at the time of the reference of the petition under consideration, the Board have been led to the conclusion that it was the intention of your honorable body that the Board should consider the question of high service in all its bearings and not alone as affecting the Chestnut Hill district.

If there was only one elevated section of the city, the question of high service would be very easy of solution. As is well known, however, such is not the case. The hills and elevated parts of the city are scattered indiscriminately throughout its whole territory, and between them lie valleys of

no inconsiderable extent. On the south side of the city, speaking generally, are Waban, Chestnut, Institution, Oak and Bald Pate Hills, and on the north side are Nonantum Hill, Mt. Ida and the hills of West Newton. With few exceptions these elevations are or can be furnished with water for domestic use by our present system of supply. Most of them, however, do not and cannot have a perfect fire service with the now established system.

The amount of pressure to the square inch which is considered necessary for a perfect fire service has been set at 65 pounds. The problem which the Board have attempted to solve is how to secure this pressure upon the most elevated point in the city and at the same time not to subject the pipes already laid in the lower sections to too much pressure. This, of course, could be accomplished by the introduction of an independent system of water supply for the elevated parts of the city, but such a scheme would render it necessary to duplicate our pipe system throughout a great number of our streets, and would entail a very large expense upon the city, without any proportionate return in water rates. When we consider that we have already expended in the laying of water pipe something over \$1,000,000, and that the city is far from being fully piped, it is easy to see that, if it is necessary in order to carry out this independent system of High Service, to duplicate this pipe to any considerable extent, such a plan is, under existing conditions, far from feasible.

They would recommend the securing of about one acre of land at or near the summit of Institution Hill and the erection thereon of a water-tower or stand-pipe sixty feet in height; the connecting of this water-tower with the present system of water supply by the necessary pipes and, if required, the alteration of the pump at the pumping-station so as to render it capable of forcing water to the height

necessitated by the change in our system of supply.

The Board have selected Institution Hill, for the reason that it is nearer the centre of distribution than any other eligible site. The petition suggests the securing of the summit of Waban Hill and the use of it by the city as a public pleasure ground. The Board would say that they do not think that it is becoming in them to make any suggestion to the City Council in this respect, as it is a subject entirely without their province.

The Board have come to the conclusion that it is far better for the city to erect a stand-pipe than to build a surface reservoir; in the first place a surface reservoir would be much more expensive, as it would require much more land and would cost much more for construction, and in the second place a surface reservoir placed upon Waban Hill, the only point in the city upon which such a reservoir could be built, would not be at sufficient elevation to supply water to the top of Oak Hill or Bald Pate, and only in a very inefficient manner to the tops of several other elevations, and thus the very result sought for would not be obtained. By the erection of a stand-pipe upon Institution Hill 60 feet in height, a pressure of 21 pounds would be obtained upon the highest elevation of the city and there would be very few points which would not have a pressure of from 50 to 60 pounds which, although not giving a perfect fire service, would give an exceedingly satisfactory one. At the same time it has not been deemed advisable to erect a stand-pipe exceeding 60 feet in height, because with one of this height the pressure upon the pipes in the lower levels would run from 100 pounds to 140 pounds with the water in a normal condition and might be much higher if any disturbance occurred in the pipes, and this is all the pressure that the City Engineer has deemed it wise to place upon our present system. The cost of a system of

“high service,” such as is briefly outlined in the report, the Board believe would not exceed \$90,000 and might be less than this amount.

The introduction of high service will undoubtedly somewhat increase our consumption, as new territory will be brought within reach of our supply and the increased pressure will have a tendency to add to our waste. Under the circumstances, the Board feel it incumbent upon them to call the attention of the City Council to the question of additional supply. The amount of water which can be obtained from the filter basin upon the Needham side of the Charles River is, in the dry season of the year, at least, not much, if any, exceeding 1,100,000 gallons in 24 hours, while the quantity of water which can be obtained from the driven wells on the Newton side of the river is not accurately known, as they have never been put to a test since their acceptance. The quantity, however, which can be obtained from both sources cannot exceed 1,300,000 gallons in 24 hours. The city's consumption has reached as high as 1,900,000 gallons in 24 hours. This was in the summer of 1886. Since that time the meter system has been introduced and has, undoubtedly, reduced the amount of water wasted. The seasons of 1887 and 1888 were noteworthy by reason of the amount of rainfall during what are ordinarily the dry months of the year. The water supply, consequently, during the last two seasons has not been put to a trial. If, however, we should have a dry season, the daily consumption would now, undoubtedly, much exceed 1,900,000 gallons. It can be easily seen, therefore, should such a rate of consumption last for any considerable period, that the reserve supply in the reservoir, which is efficiently not over five or six million gallons, would be soon exhausted and a restriction would necessarily be placed upon the consumption of water by the citizens.

Some time ago, the Board caused investigations to be made as to the best method of protecting our present supply. These investigations, although satisfactory, were very meagre, and the Board do not feel that they have facts enough in their possession upon which to base a recommendation. They therefore have decided to ask your honorable body to make an appropriation for the purpose of making further investigations. They would also recommend that steps be taken to secure authority from the Legislature to obtain an additional supply of water not exceeding 5,000,000 gallons in 24 hours, and the Board would inform the City Council that a petition has already been filed with the Legislature asking for such legislation. This action was taken, as the introduction of new business was prohibited after the 6th day of February, and if the petition had not been filed before that date, no action could have been taken until next year. The Board would, therefore, request that such action be ratified by the City Council if, in its judgment, it see fit to adopt the recommendations of the Board herein contained, and would also recommend the adoption of the accompanying orders.

Respectfully submitted,

NEWTON WATER BOARD,

By EDWARD W. CATE, *President*.

OFFICE OF THE NEWTON WATER BOARD, MARCH 25, 1889.

This report was afterwards referred back to this Board. By reference to it it will be seen that the Board called the attention of the City Council at that time to the question of additional supply, and upon its reference back, it was deemed best to consider at the same time both of these questions, namely that of high service and additional supply. A report upon these subjects was made to your honorable body by this Board Dec. 10, 1889, a copy of which report will be found below.

REPORT ON HIGH SERVICE.

To the Honorable the City Council of the City of Newton:—

On March 25th last the Water Board presented to your honorable body a report upon the petition of Leverett Saltonstall and others for a high water service. By reference to that report it will be seen that, at that time, the Board judged it advisable to treat the question of high water service more broadly than a strict construction of the subject referred to it required. Upon the recommitment of the petition and report to this Board for its further consideration, certain other problems which the Board had frequently considered in the past, so pressed forward for solution that it at once became apparent that the question of high water service could not be properly reported upon without a consideration and report upon these other questions.

It was, therefore, decided to request the City Engineer to consider, not alone the problem of high service, but also those other problems of additional supply, improved fire-service, and kindred subjects, which had been somewhat slightly touched upon in the report of March 25, having in view not only the present needs of the city, but also its future requirements. The magnitude and complexity of the subject led the Board and the City Engineer to believe that it would be for the best interest of the city that the Board secure the service of some engineer

of wide and varied experience in water-works matters, who should act in conjunction with the City Engineer.

A correspondence was opened with A. Ftely, Chief Engineer of the New York Aqueduct Commission, and he eventually consented to act as consulting engineer.

The instructions given to the engineers are contained in the following resolutions, passed by the Board, Sept. 30, 1889 :

“IN NEWTON WATER BOARD,

“September 30, 1889.

“*Voted*, That Mr. A. Ftely, in conjunction with the City Engineer, be requested to examine and to make a comprehensive report to this Board, as soon as possible, upon the best method of extending the water-supply of the City of Newton, with a view to the needs of future growth; and, also, in connection with such extension, to consider the best methods for providing for such a high service as will be sufficient for the accessible elevations likely to need such supply, and for reenforcing the fire-service of the whole city.”

The results of the labors of the engineers are embodied in a report made to this Board, Nov. 23, 1889, a copy of which report will be found hereto annexed. Consultations between the Board and the engineers led to the filing of a supplemental report, Dec. 6, 1889. This report will also be found hereto annexed.

These reports set forth the needs of our water system so clearly and state the solutions of the problems which have perplexed the board so convincingly, that it would be an act of supererogation to do more than to refer the City Council to them.

By an examination of these reports it will be seen that the problems considered have been grouped under three heads.

Under the first head are included all questions relating to the increase of the water supply of the city. In this connection the Board would remind your honorable body that since the

last report, authority has been obtained from the Legislature to take additional water to an amount not to exceed in all, 5,000,000 gallons in twenty-four hours.

The plan proposed contemplates taking, at the present time, only an additional 1,000,000 gallons, which it is judged will answer the needs of the city for quite a number of years.

It is estimated that this part of the work will cost \$98,900. The items of which this amount is made up will be found in the report of the City Engineer, annexed to this report.

Under the second head are included the questions relating to furnishing a domestic supply to all parts of the city (including, of course, those sections of the city to which the petition of Mr. Saltonstall and others particularly relates), and also relating to the perfection of our fire-service, upon points which are not now adequately supplied in this respect, exclusive however of the extreme elevations of the city.

The cost of this part of the proposed work is estimated at \$95,369.50.

For the details of this estimate the Board would call your attention to the report of Mr. Noyes, referred to heretofore.

The perfecting of the fire-service upon the highest elevation of the city is treated upon the third head. The cost of this part of the contemplated work is estimated at \$88,465; the details of which will also be found in Mr. Noyes' report.

By reference to the first two annexed reports it will be found that the relative importance of the different parts of the work is in the order of their mention. It is imperatively necessary that the work contemplated under the first heading be done immediately, if the city is to be freed from the danger of a scarcity of water of a satisfactory quality during dry seasons.

The performance of the second part of the work will meet the wants of your petitioner.

While the third part of the work will become necessary in a few years, this Board does not feel that the needs of the city demand that it be done at the present time.

The Board would therefore recommend the adoption of the plans of the engineers so far as they relate to the work included under the first two heads, and the passage of such orders as will authorize them to carry out this work.

The Board, however, desire to call the attention of the City Council to the fact that, in the estimates given, nothing is included for land, land damage, or damage for the taking of water.

It will, of course, be necessary to secure land at the top of Waban Hill upon which to erect the covered reservoir and other works mentioned in the reports of the engineers. It is believed that these works, and extension of the same which may be rendered necessary within a few years, can be erected upon two acres of land. This amount of land would not allow for any ornamentation, and your honorable body might think best to secure more than two acres.

The Board would therefore recommend that the proper steps be taken to secure such a quantity of land as the City Council shall deem most expedient.

The plan proposed for increasing the city's water supply contemplates the building of a covered conduit extending from the present filtering gallery to the neighborhood of Nahanton street. The amount of water expected to be obtained from this source is about 1,000,000 gallons in twenty-four hours, which, added to our present supply, would give the city a total supply of something less than 2,500,000 gallons in twenty-four hours. It will be immediately seen that to obtain a supply of 5,000,000 gallons in twenty-four hours it will soon be necessary to secure other land to the south of Nahanton street. The number of acres in this locality which the city needs and ought to have is

about six hundred. It is impossible to state what amount of money will be necessary to secure such a quantity of land ; but the Board feel that the circumstances are such as render it imperative for the city to immediately proceed to secure this land, by purchase or otherwise, and earnestly recommend to the City Council immediate action in this matter.

Respectfully submitted,

NEWTON WATER BOARD,

By EDWARD W. CATE, *President*.

OFFICE OF THE NEWTON WATER BOARD, DECEMBER 10, 1889.

REPORT OF THE ENGINEERS TO THE WATER BOARD.

This report is submitted in obedience to the following resolutions passed by your Board on September 13, 1889:—

“ IN NEWTON WATER BOARD,

“ September 13, 1889.

“ *Voted*, That Mr. A. Fteley, in conjunction with the City Engineer, be requested to examine and to make a comprehensive report to this Board, as soon as possible, upon the best method of extending the water supply of the City of Newton with a view to the needs of future growth; and also in connection with such extension to consider the best methods of providing for such a high service as will be sufficient for the accessible elevations likely to need such supply, and for reenforcing the fire-service of the whole city.

“ A true copy.

“ Attest :

ALBERT S. GLOVER,

“ *Clerk.*”

It may not be out of place, before entering into the discussion of the subject at hand, to state that the present investigation originated from the necessity of procuring an adequate water supply for domestic and fire service for the highest point of your city. As it is plain, however, from your experience of several dry seasons, that your present supply has now reached its limit, it is obvious that the necessities of a high service, added to a steady increase of the consumption, would soon tax your present resources beyond their ultimate capacity. Hence the advisability of adding to a study of a high-service supply,

an investigation of the means of adding to the capacity of the present supply.

The present condition of your water supply is the natural and legitimate outcome of the increase of your population. Your works were built about fifteen years ago, with the expectation that after a certain number of years they would have to be enlarged to fit new conditions of population and of general prosperity.

As in the case of other cities placed in similar conditions, the time has come to provide for the future needs of the consumers without waiting for the year of extreme drought, with its short supply and its accompanying discomfort and suffering.

In making such an investigation, it becomes obviously necessary to take a comprehensive view of the question, as it will be ultimately solved in its entirety, and to decide on a general plan which can be developed from time to time as the growing needs of the city may require.

The first Board of Water Commissioners of Newton, in its report to the City Council of Newton, May, 1875, on the choice of a water supply, gives its reasons for recommending the Charles River as the source of such supply; the same reasons exist in favor of Charles River as the source of the future supply of Newton.

Charles River, having a water-shed of 180 square miles above the southerly boundary line of Newton, is naturally designated as the source of water supply for that city and for the various communities located on its banks, provided it can be properly protected from pollution from objectionable drainage. The present efforts of the State Board of Health give ample promise that such protection will be afforded.

Owing to the irregular volume of water flowing in Charles River, which is very small in the summer, the maximum amount of water to be taken from the stream by the various communities

which derive their supply therefrom has been fixed by State authorities.

Whenever the time comes that the river in its natural condition is not sufficient to supply the riparian communities in dry weather, it will become necessary to store during the season of large flow the surplus water for the requirements of the dry season.

In this connection we refer you to the study of that question made by the City of Boston in September, 1874, at a time when Charles River was considered as one of the possible sources of water supply (see Doc. 85, Appendix E), which may at this time prove interesting, however remote a consideration of that question may be in the present case.

The following report is limited to the consideration of an ultimate supply of 5,000,000 gallons per day, the maximum volume allowed by the State, and a quantity which, according to our estimate of the growth of your city, we believe to be sufficient until 1925. An increase of about 1,000,000 gallons per day in the capacity of the source of supply, and in the appliances necessary to convey the same, is now recommended, leaving to the future the gradual extension of the plant, on the plan recommended, as the increase in the needs of the consumers require it.

Source of Supply.

Rain-water, after it has fallen on the ground, is disposed of in various ways. A variable portion flows over the surface towards the nearest water-course.

The surface flow, however, may be partially or wholly suppressed, owing to the small rate of the rain-fall, to the perviousness of the soil, to general conditions favorable to evaporation, or to a combination of these causes.

Another portion is evaporated into the atmosphere before

it has left the surface of the ground, or the surface of the leaves or other vegetable growth on which it has fallen.

The balance is absorbed by the ground, *i. e.*, penetrates into it in a general vertical direction until it reaches the surface of the ground-water and becomes a part of it.

In the vicinity of streams and of large bodies of water it is generally found that the surface of the underground water has towards them an inclination which, owing to the degree of perviousness of the materials, to their irregularity, and to other local causes, is seldom constant; but it indicates a steady underground flow.

Thus the surface and underground flows unite to form and to maintain the streams and other water bodies.

Consequently water, whether taken directly from streams or from an underground source in their vicinity, is generally withdrawn, in the majority of cases, from their ultimate natural supply.

The present supply is now obtained mainly from an extensive excavation or well called the filtering gallery, 1,575 feet long and of variable width, with a depth of water varying between 10 and 4 feet, with its bottom 10 feet below the normal surface of the water in the river, at such a depth that it intercepts and stores the flow of the underground water which would otherwise flow into the river: it also receives water in an unknown proportion from the river, through the bank which separates it from the latter.

In addition, a direct pipe is laid between the filtering gallery and the river to supply directly any deficiency of the former in case of drought; the use of this device has been so far restricted to a few hours since it was built. Tube-wells have been subsequently and successfully driven in the bottom.

This gallery has rendered good service, and has furnished water in comparatively large quantities. Owing, however, to

the fact that the water gathered and stored in the gallery is exposed to the air and light for a long time, a condition favorable to the deterioration of underground water, the design of this structure is partly responsible for the taste and odors developed from time to time in your water supply.

The capacity of a supply derived from the tapping of underground waters cannot be estimated to a certainty. The apparent water-shed of the stream and a knowledge of the character of its grounds can, however, give sufficient data to form an estimate.

The best evidence in regard to the yield of such a source of supply is given, however, by actual experience of its capacity; and, in the case of the water-works of Newton, the supply for the last fourteen years has been such as to justify the opinion that a much larger supply can be obtained by extending the works on a similar plan over a more extensive territory.

The grounds on both sides of the river, above the present pumping-station, form a large underground reservoir, the useful capacity of which is determined by their area, by the proportion of void spaces which the water can penetrate and occupy, and by the depth from which the water can be brought to the surface,—provided the depth of draught remains within such limits that the underground reservoir can be replenished during the wet season.

In the present works the water is drawn from the ground to a depth not exceeding ten feet from its surface; this mode of supply can be extended,—a number of borings made for the purpose of investigation showing that a continuation of the present system would give a good promise of success. In doing so the depth of draught would be obviously limited to that of the present works, as it is deemed inadvisable, owing to the character of the grounds in which the pumping-station is built,

to contemplate a deepening of its pump-well and of its suction-pipe.

A deeper draught in the vicinity of the present works would, most probably, diminish the yield of the present supply, and if such a deeper draught were found advisable, either by building a lower collecting gallery or by driving deep wells connected with a pumping apparatus, the station connected with it should be placed at a considerable distance up stream, at such place that the present supply could not be affected.

Inasmuch as the water contained in the underground strata on both sides of the river, within the limits of Newton, is sufficient, in our opinion, to furnish a supply of 4,000,000 and possibly 5,000,000 gallons a day, we may consistently conclude that the *ultimate* plan to be adopted will consist in an extension of the present plant, and also in the erection of an independent pumping-station near the southerly boundary of the city; but for the present needs the solution of the question of the increase of the source of supply lies between those two plans.

If, after extending the system of underground supply, it were found by experience that the ground just described cannot furnish the full volume required, water could be taken directly from the river to fill the deficiency, and filtered on the lands (adjacent to those now owned by the city, south-west of the present gallery), which are exceptionally favorable for the construction of filter-beds.

As a basis of comparison, we estimate that the probable increased yield by extending the filtering conduit to Nahanton street, would be about equal to that obtained from a gang of driven wells placed at some point above Kenrick's Bridge. The supply from this source could be obtained with a low-lift pump forcing the water through a conduit or main to the present pumping-station, or by the use of an independent high-duty

pump forcing the water to the reservoir through an independent force main.

The comparative cost of the various methods described are as follows ; it, in no case, includes land damages :—

- | | | |
|------|--|-------------|
| 1st. | By extending the filtering conduit, altering over present pumps, and putting in one three million high-duty pump | \$98,900 00 |
| 2d. | By an independent low-lifting pumping-station and gang of driven wells | 115,000 00 |
| 3d. | By an independent high-duty pumping-station forcing the water directly to the reservoir | 125,000 00 |

To the last two items should be added the annual cost of maintenance.

In view of this difference in the cost of the above-mentioned proposed extensions of the supply, and especially in view of the cost of maintenance of an additional pumping-station, we are of the opinion that the increase of supply now needed can be better obtained by extending the present plant, and that the time has not come for the increased expenditure of laying a second force-pipe from an independent station.

The proposed extension of the present source of supply should include —

- 1st. An extension of the filtering gallery farther upstream to the length of about 2,300 feet, or to such a length as may be found more judicious from the observation of the underground water during construction.

The gallery to be made of a wooden conduit, surrounded by gravel and sand of a pervious character, and covered. A number of pipes to be driven in connection with it into the lower water-bearing strata, in imitation of what has been done with success in the present gallery.

2d. The covering of the present gallery in the same manner after the construction of the extension, provided nothing during the building operations (as is confidently expected) will cause your engineers to modify this recommendation.

In view of the deterioration of the supply experienced at times, due most probably to the exposure to the air of the water drawn from underground sources, this modification of the present gallery is earnestly recommended.

3d. An increase in the pumping capacity.

In this connection it may be well to point to the fact that an important loss of head is taking place between the filtering gallery and the pump-well, due most probably to an irregularity in the position of the connecting pipe; this loss of head will increase with the consumption, and a time will come when it will be found necessary to lay a duplicate pipe for this service; its size should be large, and while it is not recommended to be laid at present, it is thought proper in this report upon the future supply of your city, to mention this circumstance.

High Service and Distribution.

We will now refer to the conditions rendering necessary a high service system of water supply for the City of Newton. It will be observed by studying the topography of the city, that there are five elevations which cannot be supplied from our present water service, namely: Waban Hill, with a maximum elevation of 313 feet; Chestnut Hill, 290 feet; Oak Hill, 296 feet; Bald Pate Hill, 317 feet; and Institution Hill, 301 feet above tide-water. At present the water mains have been extended to the limit of the service on Waban Hill, Chestnut Hill, and Institution Hill. It will be further observed that the fire service is insufficient for the whole of

the Chestnut Hill district, for the hill between Beacon street and Ward street, for the lower portions of Waban Hill and Institution Hill, and for a large portion of the Oak Hill district, for Cottage Hill, Nonantum Hill, Mount Ida, Moffat's Hill, Newtonville, and West Newton Hills, and a small portion of Grove Hill, where the static water pressure ranges between 0 and 35 pounds.

These elevated districts are all situated south of the main line of the Boston and Albany railroad, separated from each other by elevated valleys and plains, having for the most part a static water pressure of less than sixty pounds, and comprise the centres of population known as Chestnut Hill, Newton Centre, Newton Highlands, Newton Upper Falls, the prospective centres of population known as Eliot, Waban, and Woodland, and the southerly portions of Newton, Newtonville, West Newton, Auburndale, Riverside, and Newton Lower Falls.

North of this elevated district there is an area of low elevation comprising the centres of population known as Nonantum and the northerly portions of Newton, Newtonville, West Newton, Auburndale, Riverside, and Newton Lower Falls, covering about one-third of the area, and containing about one-half of the population of the city. It has an elevation of from 32 to 104 feet above tide level, and has a static water pressure ranging from 60 to 100 pounds.

For full protection against fire there should be a pressure in the pipes of not less than about 60 pounds per square inch, and the pipes should be of such size that the draft upon them in case of fire will not materially reduce the pressure.

In order to furnish such a pressure at the highest points in the city, a pumping system or reservoir would have to be

established which would give a pressure equal to an elevation of 430 feet above tide water, or 116 feet above the highest point.

With a high service system, maintaining a water pressure equivalent to the above-described elevation, there would be a broad intermediate area which would be too high to be included in the present service, and too low to be included in the high service system just described.

We may properly conclude that the city can be divided into three planes: The first, or highest, which has insufficient, or no water supply for domestic or fire service; the second, which has a satisfactory water supply for domestic, but at places insufficient for fire service; and a third, which has an abundant water supply for all purposes.

Your water supply is partly direct, partly indirect; the water forced into the main is distributed on its way up to the reservoir, thus diminishing the height to which the whole volume is to be raised. The portion of the supply which reaches the reservoir is held there in reserve to maintain the supply at the proper pressure when the pumps are not working, or when at times the consumption may be temporarily larger than the amount pumped.

Each portion of the system of water mains has been designed to form a component part of the whole, and any plan which contemplates the addition of a high service system to the present service will cause an unequal and undesirable pressure at various points, or be attended with an unwarranted expense for duplicate water mains over a considerable portion of the city. This could be partially obviated by gating off a portion of the pipes; but it would so seriously interfere with the efficiency of the main system that it should only be resorted to as a temporary measure in case of accident.

The works should be so designed and constructed, and the

future extensions should be so made, as to give to all complying with the requirements of the City Council equal fire protection and domestic service.

A study of the pipe system of the city indicates that the portion leading from Waban Hill and Chestnut Hill to the vicinity of Institution Hill can be readily disconnected from the main system without affecting the circulation, and could be extended into the Oak Hill district at such a time as public necessity may require.

From the preceding remarks, and, after reviewing the various projects already presented to your Board by the City Engineer, especially that of placing the whole city on a general high service, with a reservoir having a maximum elevation of 365 feet, we think that such an elevation would not be sufficient for efficient fire service on the highest hills. It would also necessitate pumping all of the water used in the city's supply to an unnecessary height, from which we would not get an equivalent return.

We are of opinion that—

1st. In order to improve the fire service over the large middle district it is advisable to raise the static head of the present service to make it reach from 300 to 320 feet above tide water.

2d. In connection with this raising of the present head an independent high service pumping station should be constructed, calculated to raise water to an altitude of 430 feet, which should embrace all of the elevated district south-east of Waverly avenue, Grant avenue, Glen avenue, Warren avenue, Railroad avenue, Cypress street; and should include Oak Hill and Bald Pate Hill, whenever it is thought advisable to supply that district.

The supply for both services could be procured by

pumping constantly, and thus maintaining pressure through the pipes. This method, however, would require constant pumping day and night, and a double corps of employees; moreover, the supply would be liable to interruption from breakage or other cause. The results would not warrant the expense, and we think it preferable to erect two reservoirs.

The occupation of the high points available for reservoir sites, except Waban Hill, presents objections which, in our judgment, should be respected and considered; and while Institution Hill is more centrally located, and has all the features requisite for such use, the proposed improvements and extensions of the Institution buildings will, we understand, preclude its consideration for a reservoir site.

In order to insure a sufficient pressure for both services, the reservoirs should be of such a capacity as to hold several hours' supply at or near the maximum elevation, and contain at least a day's supply, *i.e.*, 2,000,000 gallons, for the former and about 300,000 gallons for the high service.

The proposed system for a high service, and for re-enforcing the fire service of the whole city, should include:—

1st. The raising of the static head of the present service to a maximum elevation of 320 feet above tide, and the building, in connection with it, of a new masonry reservoir, covered with brick arches, of a capacity of 2,000,000 gallons, leaving the present reservoir as a reserve, of great value in case of an accident or interruption of any kind.

2d. The creation of a high service supply, with a maximum static head of 430 feet for the full supply of the high points already named, with an iron tank of 300,000 gallons capacity, about 120 feet high.

3rd. The selection of Waban Hill as being, everything

considered, the best-adapted place for the high service, and the concentration at that point of the new 2,000,000-gallon reservoir, and of the high service pumping station and its tank, in order to reduce the cost of maintenance to a minimum.

4th. The extension of the main force-pipe to the new reservoir and the additional pipe-distribution necessary for the proposed high service,—the present pipe-distribution being otherwise sufficient, with such connections and extensions as are already contemplated to carry out the original plan, for the supply of the city to the extent herein considered.

5th. The possible addition of a few regulating-valves to protect the lowest points of the city from excessive pressure, —their cost is included in the accompanying estimate; but it is expected that they can be dispensed with.

The conclusions of our report may be briefly summed up as follows:—

- a.* To extend the filtering-gallery by a covered conduit.
- b.* To cover the present gallery.
- c.* To increase the capacity of the present pumping station by the addition of a 3,000,000-gallon high-duty pumping-engine.
- d.* To raise the head of the present service to a maximum elevation of 320 feet, and to construct a 2,000,000-gallon covered masonry reservoir.
- e.* To construct an independent high service pumping station with two 1,000,000-gallon engines and an iron high service water tower, 120 feet high, and containing about 300,000 gallons.
- f.* To concentrate on Waban Hill the two proposed reservoirs and the high service pumping station.
- g.* To extend the 20-inch main to the 2,000,000-gallon

reservoir and to lay a 12-inch distributing main to Institution Hill.

The estimated cost of the work as enumerated, not including land damages, is \$282,734.50.

Respectfully submitted,

A. FTELEY.

ALBERT F. NOYES,

City Engineer.

NOVEMBER 23, 1889.

ENGINEERS' SUPPLEMENTAL REPORT.

NEWTON, December 6, 1889.

To the Newton Water Board :—

GENTLEMEN,—Our report of November 23, 1889, made in accordance with your resolution of September 13, 1889, follows strictly the instruction given therein, and, in our opinion, gives the most desirable solution of the problem proposed. If all your instructions are to be covered, we have no modifications to present to our recommendations.

In your meeting of this day, however, you ask us :—

First. In what order of succession the various parts of the plan recommended should be erected.

Second. Considering only, for the present, the establishment of an improved domestic supply for all parts of the city, leaving for some future time the extension of the improved fire-service for the highest points, what part or parts of the plan recommended by us could now be omitted.

First. — Order of Succession.

In answer to the first question, we have to state that the first and most urgent need of your water supply consists in increasing your source of supply by extending your filtering-gallery, and by increasing the capacity of your pumping-station.

Referring to our report, this part of the work would cost \$98,900.

Next comes the necessity of improving your domestic supply for all parts of the city, in quality and in pressure, by

covering the present gallery, by constructing a reservoir of 2,000,000 gallons' capacity, at the maximum elevation of 320, and by providing the necessary force mains and regulators.

This part of the improvement would furnish to all portions of the city a better domestic supply, and pressure would be such, that, it is hoped, very few, if any, regulators should be used in the lowest part of the city territory; it would also prevent to a large extent, if not entirely, the deterioration of the water. The cost of this part of the system is estimated at \$101,119.

The third part of the project consists in the erection of an improved fire-service for the highest points of the city, composed of a pumping-station complete, of a tank in an extreme elevation of 420 feet, and of the necessary distribution connected therewith. The cost of the improved fire-service is estimated at \$88,465.

Second. — What Part Could now be Omitted ?

The consumption of water is comparatively so limited at present that the loss of head due to friction in pipes is insignificant, and the pressure produced by the proposed "Two Million" reservoir would be sufficient for some time to give, as we said before, a materially improved domestic water supply to all parts of the city.

As the consumption increases, however, the loss of head due to friction in pipes will increase correspondingly, as was demonstrated by the experiments lately conducted by the City Engineer, and that cause added to the increase of population on the highest districts will render the improved fire-service system recommended by us a matter of necessity.

For the present we may say, under your present instructions, that the improved fire-service may be dispensed with; but, while we make that statement, we desire to express our

opinion that this service, as proposed by us, is an important feature of the whole plan presented, and that it ought to be kept in view as a part of it and as one of the necessities of the future.

In conclusion we will say that:—

a. The increase of your present supply, as described above, is the most important work to be done now.

Cost		\$98,900
------	-----------	----------

b. The improvement of your domestic supply for the whole city, in pressure and quality, is next in importance.

Cost		101,119
------	-----------	---------

Total		\$200,019
-------	-----------	-----------

Leaving for the near future an expenditure for the improved fire-service of		\$88,465
--	-----------	----------

Respectfully submitted,

A. FTELEY.

ALBERT F. NOYES,

City Engineer.

ESTIMATE OF COST.

WEST NEWTON, Dec. 10, 1889.

To the Newton Water Board:—

GENTLEMEN,—In accordance with your instruction of December 9th, I herewith respectfully submit a detailed statement of the estimated cost of each item of work proposed, which make up the subdivisions of report of engineers under date of Dec. 6, 1889.

First item, for increasing your water supply and the capacity of your pumping-station:—

For extending a filtering conduit from the end of the present gallery to Nahanton street, as described in report, together with all necessary connection with filtering gallery, man-hole, pipes, etc., the sum of	\$52,900 00
For altering over the 5,000,000 compound condensing pumping-engine at the pumping-station, in order to force the water to the additional height proposed	6,500 00
For putting in new foundations for a new 3,000,000 gallon high-duty pumping plant and boiler	10,400 00
For one high-duty pumping plant, capable of pumping 3,000,000 gallons of water in 24 hours, together with high-pressure boiler, etc.	29,100 00
Making a total of	\$98,900 00

Second item, for improving the domestic supply for all parts of the city in quality and pressure:—

For replacing the present filtering-gallery by a covered conduit, the sum of	\$23,546 00
For a covered masonry reservoir to contain about 5,000,000 gallons of water, with gate-house and appurtenances	51,750 00
For extension of 20-inch force-main for present reservoir to proposed new reservoir, together with gates, valves, etc.	12,023 50
For pressure regulators, together with recording gauges and connection with main pipes	8,050 00
	\$95,369 50

Third item, for improved fire-service for the highest points of the city:—

For a pumping-station, which shall be constructed in connection with a house for the pumping-engine, ...	\$10,350 00
For two 1,000,000 gallon pumping-engines, boilers, foundations, etc.	12,650 00
For covered water-tower, together with foundation, connections, etc.	23,000 00
For distribution from water-tower to main system	42,465 00
	\$88,465 00

Respectfully submitted,

ALBERT F. NOYES,

City Engineer.

The plan recommended by the Engineers was adopted by the City Council and appropriations made to carry out the

work. This work was immediately entered upon by the Board and steps have already been taken which will insure the carrying out of this plan, which it is hoped will be completed so far as is now designed, at an early date. The report of the Water Board also recommended the securing of land along the banks of Charles River in order to protect and increase the water supply of the city. The Board believes that it has reason to congratulate the city that this recommendation was favorably acted upon and that already land enough has been secured to supply the city with water for a long time to come.

In conclusion the Board regrets to say that it has to report a change in the personnel of the employees of the department. By the resignation of Mr. Albert S. Glover, who has been Water Registrar during the last ten years and clerk of this Board since its organization, the city loses a most faithful and efficient officer, and the Board feel that it is no more than just to say, that it is in a great measure due to his ability that the department has been successfully and efficiently managed in the past.

Respectfully submitted,

NEWTON WATER BOARD,

By EDWARD W. CATE. *President.*

Details of Extensions made in 1889.

STREET.	WARD.	LOCATION.	LENGTH OF EACH SIZE IN FEET.				Gates.	Hydrants.	Cubic Yards Rock.
			12 inches.	8 inches.	6 inches.	4 inches.			
Aspen avenue . . .	4	Extended west	—	—	178	—	—	—	—
Auburn, off . . .	4	From Auburn, south & west .	—	—	540	—	1	1	—
Auburndale avenue .		Extended west	—	—	507	—	—	—	—
Beacon	5	Extended east	—	492	—	—	—	1	—
Brookside avenue . .	2	Extended north	—	—	188	—	—	—	—
Butler	3	From Mt. Vernon, north & east	—	—	443	—	—	—	—
Cabot	3	From Harvard, west	—	—	348	—	—	1	—
Chestnut, off . . .	2	From Chestnut, west	—	—	—	153	—	—	—
Chestnut	5	From Woodward, north . . .	461	—	—	—	1	1	—
Chestnut	5	From Oak, east	—	—	361	—	1	1	—
Dalby	1	From California, south . . .	—	—	286	—	1	—	—
Edinboro'	2	Extended north	—	—	178	—	—	—	—
Elliot, off	2	Extended south	—	—	193	—	—	1	11
Emerald	5	Extended south	—	—	427	—	1	1	—
Essex road	6	From Hammond, north . . .	—	643	—	—	1	1	—
Forest avenue . . .	3	Extended south	—	—	12	—	—	—	—
Glenwood avenue . .	6	Extended south	—	—	154	—	—	—	—
Hammond	6	Extended south	—	—	—	—	—	—	208
Hancock avenue . . .	6	Extended north and west . .	—	—	522	—	—	1	—
Hillside	5	From Walnut, west	—	—	237	—	1	—	—
Hull & Beaumont av.	2	From Murray, east and south.	—	413	146	—	2	1	—
Institution avenue . .	6	Extended south	—	—	190	—	—	—	—
Irving	6	Extended north	—	—	440	—	1	—	—

Jenison	.	.	.	.	.	From Judkins, southeast	.	.	142	—	—	—	—	—	—	—
Lenox	.	.	.	.	.	Extended north	.	.	131	—	—	—	—	—	—	—
Morton	.	.	.	.	.	From Cedar, north	.	.	1465	—	—	1	—	2	—	—
Paul	.	.	.	.	.	Extended west	.	.	31	—	—	1	—	—	—	—
Pearl	.	.	.	.	.	Extended west	.	.	46	709	—	1	—	—	—	—
Prince	.	.	.	.	.	Extended south	.	.	519	—	—	1	—	—	—	—
Pumping station	.	.	.	.	.		.	99	—	—	—	1	—	—	—	—
Railroad avenue	.	.	.	.	.	From Station, west.	.	.	583	—	—	1	—	1	—	—
Reservoir	.	.	.	.	.	Ward street	.	.	62	—	—	1	—	—	—	—
Ripley	.	.	.	.	.	Extended east	.	.	73	—	—	—	—	—	—	—
School	.	.	.	.	.	From Gardner, north	.	.	—	—	—	—	—	—	—	—
Summer	.	.	.	.	.	From Chestnut, east	.	.	—	—	—	1	—	—	—	—
Summer	.	.	.	.	.	From Ward, south	.	.	31	—	—	1	—	—	—	—
Temple	.	.	.	.	.	From Prospect, west	.	.	1	1254	—	1	—	1	—	38
Walnut	.	.	.	.	.	To connect dead ends	.	.	—	—	—	—	—	—	—	—
Walnut	.	.	.	.	.	To connect dead ends	.	.	507	—	—	—	—	—	—	—
Walnut	.	.	.	.	.	From Homer, north	.	.	591	—	—	—	—	—	—	—
Walnut	.	.	.	.	.	Extended east	.	.	536	—	—	1	—	—	—	—
Warren	.	.	.	.	.	Extended east	.	.	—	—	—	—	—	—	—	11
Washington, off	.	.	.	.	.	From Wash'gton, north & west	.	.	249	—	—	—	—	—	—	—
Windsor	.	.	.	.	.	Extended west	.	.	1259	—	—	2	—	1	—	242
Winter.	.	.	.	.	.	From Chestnut, east	.	.	—	909	—	—	—	1	—	—
Winter.	.	.	.	.	.		.	—	39	—	—	1	—	1	—	—
Total	.	.	.	.	.	.	.	2194	9920	5122	550	13	13	—	510	—

Length of pipe laid during year 1889, 17,786 feet.

Details of Service Laid in 1889.

MONTH.	IRON PIPE.										LEAD PIPE.										TOTAL.	
	4-in.		1½-in.		1¼ in.		1-in.		¾-in.		¾-in.		½-in.		½-in.							
	No.	length in feet.	No.	length in feet.	No.	length in feet.	No.	length in feet.	No.	length in feet.	No.	length in feet.	No.	length in feet.	No.	length in feet.						
January .	-	-	-	-	-	-	-	-	-	1	13	12	499	2	68	15	580					
February .	-	-	-	-	-	-	-	-	3	105	1	98	-	74	-	-	4	277				
March . .	1	69	-	-	-	8	279	3	94	-	1	75	9	644	-	14	22	1175				
April . . .	-	-	-	-	-	9	261	-	-	-	3	163	8	478	2	79	22	981				
May . . .	-	-	-	-	-	3	90	-	-	-	2	116	11	498	3	77	19	781				
June . . .	2	366	-	-	-	4	136	-	-	1	15	14	18	818	4	82	30	1431				
July . . .	-	23	-	180	-	3	480	2	78	-	2	162	10	533	3	72	20	1528				
August . .	-	-	2	429	-	5	169	-	-	1	27	34	7	223	-	-	15	882				
September .	-	-	2	302	1	99	4	112	-	-	-	2	67	6	254	-	15	834				
October . .	-	-	-	-	1	58	4	85	-	-	-	2	149	6	362	1	34	14	688			
November .	-	-	-	438	1	157	5	351	-	-	-	2	421	12	642	1	80	21	2404			
December .	2	68	1	13	-	5	290	-	-	1	35	4	180	15	745	-	28	1331				
Total . .	5	526	5	1362	3	314	50	2217	8	277	3	428	21	1492	114	5770	16	506	225	12892		

Total iron, 4,696 feet. Total lead, 8,196 feet. 225 new services, 12,892 feet. 53 renewals, 1,937 feet.

Supply Pipe Laid in 1889.

STREET.	Ward.	LOCATION.	Length in feet.	
			2-in.	1¼-in.
Phipps place .	2	Extended east	24.00	-
Webster place .	3	Extended north	-	20.10
Off Oak . . .	5	From Oak, east	-	129.65
Total			24.00	149.75

Number and Length of Services Laid to Date.

DATE OF LAYING.	Number.	Length in feet.
Laid to January, 1878	1,497	104,065
Laid during 1878	188	15,449
Laid during 1879	232	13,670
Laid during 1880	228	18,039
Laid during 1881	267	14,675
Laid during 1882	169	10,904
Laid during 1883	159	11,709
Laid during 1884	179	12,113
Laid during 1885	215	12,367
Laid during 1886	298	14,748
Laid during 1887	335	16,457
Laid during 1888	211	10,378
Laid during 1889	225	12,892
Total	4,203	267,466

Meters Set.

The following meters were set during 1889: Crown 158, Hersey 43, Worthington 4, Empire 2, Frost 1, Thomson 1. There are now in use throughout the city 2708 meters, 1653 of which are owned and rented to the water-takers by the department. The meters now in use are classified as follows:

Classification of Meters in Use.

PATTERN.	SIZES.								TOTAL.
	½-in.	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	
Crown . . .	1991	-	24	28	2	11	2	-	2058
Worthington .	-	300	6	3	-	-	1	-	310
Union Piston .	-	188	18	1	-	-	-	-	207
Union Rotary .	-	52	2	4	-	1	-	-	59
Hersey . . .	-	52	-	-	-	-	-	1	53
Empire . . .	10	-	-	-	-	-	-	-	10
Spooner . . .	-	2	1	-	-	-	-	-	3
Desper . . .	-	3	-	-	-	-	-	-	3
Balance Valve	-	1	-	-	-	-	-	-	1
Frost	-	1	-	-	-	-	-	-	1
Thomson . .	-	1	-	-	-	-	-	-	1
Indicators . .	-	-	-	-	-	-	-	-	2
Total . . .	2001	600	51	36	2	12	3	1	2708

Water Pumped and Consumed.

There were pumped during 1889, 315,370,007 gallons of water, about 59,000,000 gallons in excess of the quantity pumped in 1888.

The consumption for the year averaged 853,435 gallons per day, ranging from 259,713 gallons, the minimum, Jan. 6th to 1,412,000 gallons, the maximum consumption May 18th. The accompanying tables show the consumption by months since 1878.

Daily Average Consumption of Water from 1878 to 1889, inclusive.

MONTH.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
January .	286,234	309,045	386,524	406,212	445,257	526,943	449,079	532,659	533,558	619,418	645,101	655,433
February.	274,792	300,275	341,920	397,346	470,841	481,437	444,011	563,741	531,434	592,530	655,412	724,710
March . .	227,484	300,048	325,996	354,168	541,149	503,804	473,193	466,218	570,673	580,902	617,863	719,927
April . .	221,508	297,850	381,002	392,617	477,540	494,281	451,722	543,734	575,883	590,590	635,638	770,102
May . . .	294,278	388,671	514,382	466,234	510,951	568,500	502,412	566,650	645,267	763,109	700,816	900,353
June . . .	369,844	455,924	719,348	475,573	646,752	719,838	679,588	835,919	840,520	896,608	871,010	914,089
July . . .	557,446	488,733	515,623	520,529	764,985	818,209	626,404	870,227	1,052,536	905,024	924,756	878,551
August . .	386,916	502,418	540,408	510,214	944,486	1,042,608	560,032	660,262	742,347	769,210	811,153	831,641
Septemb'r	374,517	387,366	530,826	550,974	712,994	882,348	663,817	673,137	716,465	760,308	688,252	807,418
October . .	343,431	370,238	419,474	467,155	601,595	511,039	552,219	580,189	678,351	692,127	641,758	873,851
Novemb'r	304,208	361,446	387,683	440,689	520,945	482,570	476,116	529,666	611,504	653,907	612,405	1,081,677
December	297,890	336,777	364,196	426,752	501,669	460,994	497,075	532,023	592,510	620,689	634,414	1,076,158
Daily av'ge	328,212	374,949	452,032	450,705	594,930	624,381	532,804	614,968	675,298	703,702	703,491	853,435
Maximum	700,000	650,000	858,000	842,000	1,370,000	1,394,000	962,000	1,387,000	1,997,000	1,490,000	1,419,000	1,412,000

Receipts for the Year 1889.

Annual rates	\$19,403 22
Meter rates	47,204 52
Service and meter account	5871 20
Construction account	7 60
Meter rent	3,196 83
	\$75,683 37

Expenditures for the Year 1889

MAINTENANCE ACCOUNT.

Amount of appropriation	\$14,800 00
Expense of registrar's office, including salary of registrar, inspector, travelling and miscellaneous ex- penses	\$3,410 13
Expense of superintendent's office, in- cluding salary of superintend- ent, pipe yard and miscellaneous expenses	1,847 12
Expense of pumping station, includ- ing salary of engineer and fire- man, fuel, repairs, etc.	5,313 85
Expense of maintaining reservoir	2,066 12
mains	546 40
hydrants	424 92
services	144 74
filter basin	821 44
stand pipes	104 14
city teams	491 25

<i>Amounts carried forward,</i>		
	\$15,170 11	\$14,800 00

<i>Amounts brought forward,</i>	\$15,170 11	\$14,800 00
Expense of maintaining drinking posts	26 59	
Expense of maintaining watering troughs	41 29	
Tools	47 56	
Pumping Station dwelling . .	135 23	15,420 78
Balance, deficit		620 78

SERVICE AND METER ACCOUNT.

Amount of appropriation		\$3,500 00
Expended for new services	2,427 53	
maintaining service	273 55	
maintaining meters	513 17	
maintaining city teams	305 01	
sundries	12 74	3,532 00
Balance, deficit		\$32.00

REBATE ACCOUNT.

Amount of appropriation		\$500 00
Expended in rebates of water rates . .	\$74 79	
meter rates	266 14	
service and meter acc't	15 41	
meter rental	51 97	408 01
Balance unexpended		\$91 99

CONSTRUCTION ACCOUNT.

DR.

Expended for new mains	\$24,489 42
hydrants	1,666 35
services	8,156 43
stand pipes	72 39
water gates	434 20
tools and repairs	974 57
gate boxes	1,197 61
meters	4,394 00
city teams	728 89
pumping station exhaust	93 00
filter basin	10 30
blow offs	40 00
engine fittings	295 50
additional supply	4,941 52
high service	353 13
reservoir check-valves	1,207 43
drinking posts	4 50
watering troughs	24 75
meter maintenance	604 26
pipe yard building	16 08
	\$49,704 33

CR.

By receipts during the year	\$7 60
Net expenditure during 1889	49,696 73
Net expenditure to Dec. 31, 1888	1,168,951 25
Net expenditure to Dec. 31, 1889	\$1,218,647 98

Comparative Statement of Receipts and Expenditures from 1878 to 1889, inclusive.

YEAR.	EXPENDITURES.				RECEIPTS.				DEFICIT.
	Interest.	Maintenance	Services and Meters.	Total.	WATER RATES.			Total.	
					From City.	Other Sources.	Services and Meters.		
1878 .	\$44,800 00	\$9,777 69	\$6,997 45	\$61,575 14	\$5,896 74	\$17,598 33	\$5,280 55	\$25,775 62	\$35,799 52
1879 .	45,500 00	8,841 20	4,860 57	59,201 77	6,132 50	21,023 02	3,138 68	30,294 20	28,907 57
1880 .	47,750 00	9,223 70	4,212 24	61,185 94	8,919 00	24,815 58	6,192 40	39,926 98	21,258 96
1881 .	48,900 00	12,682 49	4,951 20	66,533 69	8,533 18	26,953 10	5,206 48	40,692 76	25,840 93
1882 .	49,600 00	13,811 62	5,590 63	69,002 25	8,729 01	32,703 38	5,454 59	47,886 98	21,115 27
1883 .	50,900 00	16,266 01	5,498 65	72,664 66	12,851 22	36,476 73	5,727 50	55,055 45	17,609 21
1884 .	52,500 00	13,351 94	5,584 97	71,436 91	12,127 56	37,641 45	5,879 38	55,648 39	15,788 52
1885 .	53,100 00	12,873 49	6,471 25	72,444 74	14,278 89	39,567 77	5,471 52	59,318 18	13,126 56
1886 .	54,380 00	12,986 51	5,998 86	73,365 37	11,177 00	43,183 88	6,311 50	60,672 38	12,692 99
1887 .	55,740 00	13,951 64	3,998 79	74,053 48	14,301 29	42,947 76	5,194 64	62,443 69	11,609 79
1888 .	59,600 00	13,938 33	3,499 22	77,296 11	15,341 26	48,692 21	3,747 05	67,780 52	9,515 59
1889 .	61,340 00	15,420 78	3,532 00	*80,700 79	15,310 96	51,296 78	5,871 20	72,478 94	8,221 85

* Rebates, \$408.01.

SUMMARY OF STATISTICS.

REPORT OF 1889.

In Accordance with the Recommendation of the New England Water Works Association. Newton Water Works, Middlesex County, Mass,

Population by census of 1885		19,759
Date of construction		1876
By whom owned		City of Newton
Source of supply		Filter basin on the bank of Charles River, fed by inter- cepted springs.
Mode of supply		Pumping through the mains to the reservoir, making the res- ervoir a storage and regulat- ing basin.

Pumping.

1. Builder of pumping machinery H. R. Worthington
2. Description of coal used:—

(b.) Kind		Bituminous
(c.) Size		Broken
(d.) Brand		Elk Garden, Cumberland
(e.) Price per gross ton delivered		\$5 25
(f.) Percentage of ash (estimated)		10
(g.) Wood, price per cord		\$6 00
3. Coal consumed for the year, in pounds 1,289,600
4. $\frac{\text{Wood consumed for the year, in lbs.}}{3} = \text{coal in lbs.}$ 19,200

5.	Total fuel consumed for the year (3) — (4).	1,308,800
6.	Total pumpage for the year, in gallons.	315,370,007
7.	Average static head against which pumps work	176.78
8.	Average dynamic head against which pumps work	227.70
9.	Number of gallons pumped per pound of coal	241.00
10.	Duty in foot-pounds, per 100 pounds of coal, using following formula, reck- oning only coal actually used in pumping :	

$$\text{Duty} = \frac{\text{Gallons pumped (6)} \times 8.34 \text{ (lbs.)} \times 100 \times \text{dynamic head (8)}}{\text{Total fuel consumed (5)}} = 45,758,964$$

**Cost of Pumping figured on Pumping Station Expenses of
\$5,313.85.**

11.	Per million gallons raised against aver- age dynamic head (8) into reservoir	16.85
12.	Per million gallons raised one foot high (dynamic)	.07

**Cost of Pumping figured on Total Maintenance (see Financial c. c.)
\$76,760.78.**

13.	Per million gallons raised against aver- age dynamic head (8) into reservoir	\$243.40
14.	Per million gallons raised one foot high (dynamic)	1.07

FINANCIAL STATEMENT. MAINTENANCE ACCOUNT.

RECEIPTS.

EXPENDITURES

DIVISION I.		
From Consumers :		
A.	Water rates, domestic	\$48,671 51
B.	Water rates, manufacturing . .	2,625 27
C.	Services and meters put in and repaired	5,519 39
D.	Total from private customers . .	\$56,816 17
From Public Funds :		
E.	Hydrant service, 566 at \$20 .	\$11,320 00
F.	Horse troughs 11, all metered .	940 43
G.	Street watering, metering rates .	1,797 84
H.	Public buildings, all metered . .	1,147 89
I.	Drinking posts, 10 at \$6 . . .	60 00
J.	Public fountain, one, metered .	44 80
K.	Service pipe, etc.	351 81
L.	Total from public funds	15,662 77
M.	Gross receipts from all sources	\$72,478 94
DIVISION II.		
N.	From fixed rates, domestic . . .	\$19,403 22
O.	From meter rates, domestic . . .	44,579 25
P.	From meter rates, manufactu'ng	2,625 27
Q.	Balance, deficit	\$66,607 74
		8,221 85
EE.	Total	\$80,700 79
		\$80,700 79

AA.	Management and repairs, details on page 46	\$15,420 78
BB.	Interest on bonds	61,340 00
CC.	Service and meter account, details on page 47	3,532 00
DD.	Rebate account	408 01

FINANCIAL STATEMENT—Concluded.

CONSTRUCTION ACCOUNT.

RECEIPTS.		EXPENDITURES.	
From bonds issued	\$49,696 73	Expended for all purposes on this account (for details see page 48).	\$49,704 33
From pipe sold, labor, etc.	7 60		
Total	\$49,704 33		\$49,704 33

Net cost of works to date \$1,168,947 61 { \$600,000, 6 per cent.
 Bonded debt at date 1,165,000 00 { 250,000, 5 per cent.
 Value of sinking fund at date 287,330 40 { 367,000, 4 per cent.
 Average rate of interest 5.2 per cent.

Consumption.

1.	Estimated total population	23,500
2.	Estimated population on lines of pipe	22,500
3.	Estimated population supplied at date	22,000
4.	Total number of gallons consumed for year	311,503,775
5.	Passed through domestic meters, gallons	129,500,000
6.	Passed through manufacturing meters, gal- lons	17,130,000
7.	Average daily consumption in gallons	853,435
8.	Gallons per day, each inhabitant (1)	36
9.	Gallons per day, each consumer	38
10.	Gallons per day, each tap (distribution 22)	203

Distribution.

1.	Kind of pipe used	Cast iron
2.	Size	From 20 inches to 4 inches
3.	Extended	17786 feet
4.	Discontinued	None
5.	Total now in use	90 2-10 miles
6.	Cost of maintenance per mile, including re- pairs, blowing off, care of hydrants, etc., ...	\$10 77
7.	Number of leaks discovered for year	12
8.	Small distribution pipes, less than 4 inches, total length	2 4-10 miles
9.	Hydrants added = ...	21
10.	Number now in use	606
11.	Stop-gates added	24
12.	Number now in use	451
13.	Small stop-gates less than 4 inch	32
14.	Number of blow-off gates	168
15.	Range of pressure at centre for day and night (average) pounds	60

Services.

16.	Kind of pipe used		Lead, wrought and cast iron
17.	Size		From 1-2 to 4 inches
18.	Extended		12892 feet
19.	Discontinued		None
20.	Total now in use		50 7-10 miles
21.	Service taps added		225
22.	Number now in use		4203
23.	Average length of service		63 6-10 feet
24.	Average cost of service		{ Gross, \$26 50 Net, 12 85
25.	Meters added		209
26.	Number now in use:—		
	(a) Domestic		2692
	(b) Manufacturing		16
			2708
27.	Motors and elevators added		3
28.	Number now in use		12

CITY OF NEWTON, MASS.

ORDINANCE XX.

Relating to the Water Department.

SECTION 1. A Water Board is hereby established consisting of five persons, one of whom shall be a member of the Board of Aldermen, one a member of the Common Council, and three at large. The offices of Water Registrar and Superintendent of Water Works are hereby established.

SECT. 2. The Superintendent shall have general superintendence of the out-of-door work of the department, under the direction of the Water Board.

Whenever any repairs are made or new work done, he shall make a detailed report to the Board of the kind of work performed, where located, the amount thereof, the quantity and kind of material used therefor, to whom chargeable, and any other particulars that may be deemed desirable or necessary. He shall perform any other duties prescribed by the Water Board.

SECT. 3. The Water Registrar shall keep full, complete, and detailed records of all doings and correspondence of the Water Board, also similar records and accounts of all the work done by the officers and employees of the department, showing the kind of work done, the location and cost thereof, and the account to which it is charged.

He shall also keep a full record of the name of each water-taker, the location and description of the building in which the water is used, the character of its use, the kind of service, the quantity supplied, and the amount charged therefor, all properly arranged for convenient reference.

He shall also keep a full record of the amount of water daily pumped, consumed, and in store; and, generally, of all facts pertaining to the condition and use of the works that may be desirable for reference.

He shall perform any other duties prescribed by the Board.

SECT. 4. The Water Board shall have the general supervision and management of the water works, and shall have power to appoint, hire, dismiss, discharge, and fix the compensation of such other officers and employees of the department (except Superintendent and Registrar) as they shall deem necessary for a proper transaction of its business.

SECT. 5. The Board shall annually, in the month of January, present to the City Council a report to and including the thirty-first day of December of the preceding year, containing a full statement of the doings of the department, of the condition of the work, and such other matters as they may deem proper.

SECT. 6. The Board shall annually, in the month of September, submit to the Committee on Finance of the City Council an estimate in writing of the receipts and expenditures of the department for the ensuing year.

SECT. 7. All bills and vouchers of purchases for the department, and pay-rolls and other bills for labor, shall be approved in writing by at least three members of the Board.

SECT. 8. All books of account and records in the department shall, at times, be open to the inspection of any committee of the City Council designated to examine them.

SECT. 9. The Board shall attach a meter to all services supplying other fixtures than faucets; also to fixtures supplying only faucets where more than three are used. The Board shall also furnish meters to all water-takers who desire to use them, regardless of the fixtures supplied.

All meters hereafter set shall be furnished, maintained, and renewed at the cost of the city, and the Board shall charge an annual rental therefor; provided, nevertheless, that any meter injured through the negligence of a water-taker, or by frost, shall be repaired at his expense.

SECT. 10. All premises where water is taken may at any reasonable time be inspected by a properly authorized officer of the department; and full authority is hereby given to the Board to order such inspection whenever they deem it for the interests of the department that it be made.

SECT. 11. The owner and the occupant of the premises in which water is used, who fails to protect his meter from frost, or fails to keep the service pipes and fixtures in good order, and neglects to repair them in three days after they have become defective, or neglects to shut off the water to prevent waste, shall be liable to a forfeiture of two dollars; and if the forfeiture is not paid within two days after notice, the water shall be cut off and shall not be let on until the waste is stopped and the fine is paid, together with two dollars for shutting off and letting on the water.

In case of a second offence within one year the water shall be shut off, and shall not be let on except by a vote of the Board, and the payment of such forfeit, not exceeding ten dollars, as the Board may impose.

SECT. 12. Applications for service pipes shall be made upon blank forms furnished at the office of the Board; when the estimated cost of the applicant's part has been deposited, the pipes shall be laid. From the main to the street line the

work shall be done at the expense of the city, the remainder at the cost of the applicant. The account shall be adjusted, and any balance paid before the water is turned on.

SECT. 13. Extensions of main pipe shall only be made when authorized by an order of the City Council. Applications therefor must be made upon the blanks furnished by the Board, upon which shall be endorsed the estimate of cost of the extension desired. No such application shall be considered by the Board unless accompanied by a written agreement binding the applicant, or other responsible party, to guarantee the city annually, for at least five years, a sum equal to five per cent. of the total cost of the extension. All receipts, for water sold from such extension, and no other, shall be credited to the party making such guaranty as payments upon account of same.

Applications for extension of mains through private ways or grounds shall in no case be granted unless the owner thereof executes a proper instrument, securing to the city the right of permanent occupation, free from any acts of interference that shall affect the safety of the pipe, and securing to the department free right of entrance for purposes of its inspection and maintenance. Nothing in this section, however, shall be construed as affecting the right of the City Council to authorize the extension of a water main without guaranty, if, upon a vote taken by ye and nay, two-thirds of the members of each branch present and voting shall vote to do so.

SECT. 14. All bills for water, including the minimum charge for water furnished by meter, shall be payable to the Treasurer in advance, on the first day of March annually. Bills for specific supplies or for a part of the year, and fines and penalties, shall be paid before the water is let on. Where water is supplied by meter, the excess over minimum rates shall

be payable semi-annually, on the first day of March and of September, for the six months next preceding.

SECT. 15. In every case of non-payment of the water rent for thirty days after the same is due, the Board shall cause a written demand to be left at the premises where the water is taken; and unless the rent is paid within three days thereafter, together with twenty cents for the demand, the Board shall cut off the supply. The water shall not be let on until the amount due, together with said fee, and two dollars for the shutting off and letting on, is paid whether other persons taking water through the service pipe are delinquent or not. In every case of non-payment of water rent, the owner of the premises, whether he is the occupant or not, shall be required to pay the same, and all charges connected therewith, provided he has been duly notified of the use of the water, and has made no objection.

Whenever the water is shut off by request of plumbers for the sake of making repairs, except those named in Section 11, the charge for shutting off and letting on shall be one dollar.

SECT. 16. The annual price or rent to be paid for the use of meters and for water shall be in accordance with the following schedule.

The Board is hereby authorized to make abatements and rebates in all proper cases; no special rates, however, shall be allowed. In any case not provided for by the schedule, the Board shall set a meter, and charge for the water at meter rate.

SCHEDULE OF RATES.

Dwelling Houses.

If occupied by one family, one faucet	\$6 00
Each additional faucet, not exceeding two	2 00
One faucet used by two or more families, each family using	4 00
Set wash-tubs, not more than three in a set, each set . .	1 00

For all other fixtures, the water to be supplied through meters at following rates:—

For Consumption Averaging Daily for Six Months.

Under 3,000 gallons per day	(per thousand gal.),	35 cts.
Over 3,000 gal. and under 6 per day	“	30 “
“ 6,000 “ “ 10,000 “	“	21 “
“ 10,000 “ “ 20,000 “	“	19 “
“ 20,000 “ “ 30,000 “	“	15 “
30,000 gals. and over per day	“	12 “

(Each meter to be subject to a minimum charge of \$10.00 per annum.)

SECT. 17. Any plumber, or other person, who shall make any alteration in or addition to, any water pipe or fixture, except so far as a written permit therefor has been given by the Board, shall be liable to a fine not exceeding twenty dollars.

SECT. 18. Whoever opens any hydrant, or removes any cap thereof, or opens or makes any connection with the pipe or reservoir, or turns off or on the water in the pipe or reservoir, without the permission of the Board, except in case of fire, shall be liable to a penalty of not less than three, nor more than twenty dollars; provided, however that in case of emergency the water may be turned off by any employee of the city, who

shall, in such case, immediately give notice at the office of the Board.

SECT. 19. Whoever, without the authorization of the Board, fishes in the reservoir or filter basin, or discharges any gun or firearm upon the same or on the grounds connected therewith, or bathes therein, or places or uses any boat therein, or posts any bill, placard or advertisement within the said grounds, shall be liable to a fine of not less than five nor more than fifty dollars for each offence; and the Board is hereby authorized to exclude the public from any or all grounds of the department, whenever such exclusion may be deemed by them necessary for the proper protection of the works.

SECT. 20. No water shall be sold to parties outside of the city.

SECT. 21. This amendment shall take effect, in so far as it relates to meters, on March 1, 1887; in all other respects it shall take effect upon its passage.



RULES AND REGULATIONS OF THE NEWTON WATER DEPARTMENT.

SECTION 1.

Office.

1. The office of the Water Board is hereby established in the room at City Hall now occupied by the Water Registrar.

SECTION 2.

Organization.

1. Besides the offices of Water Registrar and Superintendent established by ordinance, the permanent organization of the department shall be as follows:—

A civil engineer, an inspector of meters and fixtures, a pumping engineer, a fireman, a main-pipe foreman, a service-pipe foreman, three teamsters, and a clerk in the office of the Water Board. It is understood that the City Engineer is the civil engineer of this department.

SECTION 3.

Water Registrar.

1. The Water Registrar shall be the clerk and executive officer of the Board; all orders and communications of the Board shall be signed by, or given through, him, and shall be obeyed and respected accordingly.

2. He shall assess the water rates according to the tariff established by ordinance. He shall make out and distribute bills, exercise a constant supervision over the use of water, and attend to the enforcement of all regulations relating thereto.

3. He shall issue the orders of the Board for the laying of main and service pipe only after the requirements of the ordinance shall have been fulfilled; and in no case shall he order an extension in a private way until he has received a certificate from the City Engineer that said way is graded to proper level.

4. He shall be especially careful to see that the requirement of the ordinance regarding the pre-payment of water rates is strictly enforced, and in no event shall he order water turned on till the bill therefor shall have been paid.

5. He shall annually, on or before the first day of September, lay before the Board an estimate in detail of the appropriations required by the department, and of its income, for the next financial year.

6. He shall receive a daily report from the other officers of the department of the progress and condition of the work in their charge, and shall make a weekly report to the Board thereupon.

7. He shall keep copies or memoranda of all orders from the office and the reports of other officers closely posted up, and will be held responsible for the proper condition of the books, papers, and work of the office, as also for the due performance of the duties imposed upon him by ordinance.

SECTION 4.**Superintendent.**

1. The office of the Superintendent is hereby established at the pipe yard at Newtonville.

2. The Superintendent shall have general charge of the out-of-door work. No new work shall be undertaken by him without the order of the Board: any work of maintenance, however, necessary to be performed without delay, may be done without said order, the Superintendent immediately reporting thereon to the Registrar.

3. He shall have control of the laborers and other employees engaged upon work under his charge. He shall have power to hire and discharge day laborers, and to suspend any other of his employees, giving immediate notice of such suspension to the Board for its action.

4. He will be held responsible for the good conduct of the men under his direction, the condition of the water, of the reservoir and its grounds, of the grounds about the pumping station, the basin and grounds in Needham, the piping, gates, hydrants, and other appurtenances of the department plant, and all tools and property at the pipe yard.

5. He shall be watchful to prevent or remedy any defect in a street or sidewalk resulting from the presence of main or service pipe or their appurtenances.

6. Before leaving his office he will report to the water office where he may be found while absent, and the time of his expected return.

7. He shall make daily reports to the Water Registrar of the progress and condition of work in his charge.

SECTION 5.**Inspector.**

1. The Inspector, under the charge of the Registrar, shall make inspections of the fixtures and meters in service, at such times as the Registrar shall deem expedient, and he shall, in general, act as chief assistant to the Registrar.

2. He shall have charge of testing, setting, and repairing meters, and shall keep careful record of the dates and results of all tests made; of the condition of all meters removed for repairs, both before and after repairs are made, with the date of their removal and resetting. He shall also keep a careful record of the cost of setting, repairing, inspecting, and renewing all meters, and a record showing the work performed by all meters from the date of setting, with the annual and aggregate expense of their maintenance, computed both per meter and per 100,000 feet of water registered.

3. He shall make daily reports to the Water Registrar of the condition and progress of the work under his charge.

SECTION 6.**Engineer.**

1. Upon receipt of orders therefor from the Board, the City Engineer shall, within twenty-four hours, establish lines and grades for the extension of all water-mains, and shall take such measurements of main and service pipe extensions, and their appurtenances, as will enable him to correctly locate and plat the same; he shall keep the returns from the pumping engineer closely posted up, and shall plat therefrom a diagram showing the engine duty.

2. He shall make a daily report to the Water Registrar of the progress and condition of the work under his charge.

3. He shall perform such other duties as the Board may from time to time by vote require of him.

SECTION 7.**Pumping Engineer.**

1. The pumping engineer shall be held responsible for the good condition of the pumping station, machinery, fixtures, furniture, tools, and other property of the department therein contained.

2. It shall be his personal duty to keep the engines, pumps, and engine-room in a neat and proper condition.

3. He shall be entitled to one day's leave of absence in each week, provided such absence will not interfere with the proper prosecution of the work of the department, but he shall not absent himself from the pumping station or its immediate vicinity without permission asked and obtained from the water office.

4. He shall keep closely posted up the book of record of the pumping engine, which will be furnished him.

5. He shall make a daily report to the Water Registrar of the height of water in the well and river; the quantity of water pumped, and of coal consumed, and of the general condition of the pumping station, and of the work under his charge. He shall also make weekly reports to the City Engineer of the engine record, upon blanks to be furnished him.

SECTION 8.**Fireman.**

1. The fireman shall, under the supervision of the pumping engineer, attend to the firing of the boilers, and perform all work incidental thereto; it shall be his personal duty to keep boilers, furnaces, boiler-room, coal-room, and other adjuncts to the boiler-room, in a neat and proper condition.

2. He shall not absent himself from the pumping station without permission of the pumping engineer, but shall be

entitled to one day's leave of absence in each week, when such absence will not interfere with the proper performance of his duties.

3. He shall keep a careful record of the amount of coal used, and the purpose of its use.

SECTION 9.

Employees.

1. The foreman of main and service pipe and two of the teamsters shall at all times be under the direction of the Superintendent; the other teamster shall be also under the direction of the Superintendent at such times as his services are not required by the Inspector. The clerk in the Water Board office shall be under the direction of the Water Registrar.

SECTION 10.

General Rules.

1. The matter of employment and discharge of other assistance than labor shall be exercised only by the Board.

2. The Board shall establish the compensation of all employees of the department, under the ordinance, and no change in compensation of any employee shall be made without the consent of the Board.

3. No expenditure whatever shall be incurred by any employee of the department without authority therefor from the Board.

4. The Board desires that it shall be distinctly understood by all employees, that the department expects, in return for the pay attached to their several positions, the whole of their time, and the best of their ability. No extra pay for work directly connected with their duties will be allowed to persons whose pay is fixed by the month or year, and no absence from duty without leave will be permitted.



